



4910-06-P

DEPARTMENT OF TRANSPORTATION

Federal Railroad Administration

49 CFR Parts 234, 235, and 236

[Docket No. FRA-2011-0061, Notice No. 3]

RIN 2130-AC32

Positive Train Control Systems (RRR)

AGENCY: Federal Railroad Administration (FRA), Department of Transportation (DOT).

ACTION: Final rule.

SUMMARY: FRA's final rule primarily amends the regulations implementing a requirement of the Rail Safety Improvement Act of 2008 that certain passenger and freight railroads install positive train control (PTC) systems governing operations on certain main line tracks. This final rule revises an existing regulatory exception to the requirement to install a PTC system for track segments carrying freight only that present a de minimis safety risk. The final rule also adds a new exception for PTC-unequipped freight trains associated with certain freight yard operations to operate within PTC systems. The final rule also revises the existing regulations related to en route failures of a PTC system, adds new provisions related to other failures of a PTC system, and amends the regulations on applications for approval of certain modifications of signal and train control systems.

Finally, this final rule makes technical amendments to FRA's other signal and train control regulations and FRA's regulations governing highway-rail grade crossing warning systems.

DATES: This final rule is effective [INSERT DATE 60 DAYS FROM DATE OF PUBLICATION IN THE FEDERAL REGISTER].

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SUPPLEMENTARY INFORMATION:

Abbreviations Frequently Used

AAR	Association of American Railroads
CFR	Code of Federal Regulations
FRA	Federal Railroad Administration
MGT	million gross tons
NPRM	notice of proposed rulemaking
PIH material	poisonous by inhalation (as defined in 49 CFR 171.8, 173.115 and 173.132) hazardous material
PTC	positive train control (as further described in 49 CFR 236.1005)
PTCIP	PTC Implementation Plan (as required under 49 U.S.C. 20157 and further described in 49 CFR 236.1011)
PTCSP	PTC Safety Plan (as further described in 49 CFR 236.1015)
PTCWG	PTC Working Group of the Railroad Safety Advisory Committee

RFA	Request for Amendment (of a plan or system made by a railroad required to implement a PTC system as defined in 49 CFR 236.1003, in accordance with 49 CFR 236.1021)
RRR	Retrospective Regulatory Review
RSAC	Railroad Safety Advisory Committee
RSIA	Sec. 104 of the Rail Safety Improvement Act of 2008 (Public Law 110-432, Div. A) (49 U.S.C. 20157)
Sec.	section
WG	Working Group

Terms Frequently Used

Categorical de minimis exception means the exception to the requirement to implement a PTC system on a given track segment provided by 49 CFR 236.1005(b)(4)(iii)(A) and (B) before this final rule is effective and by 49 CFR 236.1005(b)(4)(iii)(A) and (B) after this final rule is effective.

General de minimis exception means the exception to the requirement to implement a PTC system on a given track segment provided by 49 CFR 236.1005(b)(4)(iii)(C) that existed prior to this final rule and by 49 CFR 236.1005(b)(4)(iii)(A) and (C) after this final rule is effective.

Old section or old provision refers to the section or provision as it existed on the day before the section or provision of this final rule is effective. PTC-preventable accident means an accident or incident that could be prevented by the functions of a positive train control system required by 49 U.S.C. 20157.

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I. Executive Summary

Section 104 of the Rail Safety Improvement Act of 2008, Public Law 110-432, 122 Stat. 4854, (Oct. 16, 2008) (codified at 49 U.S.C. 20157) (hereinafter “RSIA”) requires the installation of PTC systems governing all train operations on certain track. RSIA defines “PTC system” as “a system designed to prevent train-to-train collisions, over-speed derailments, incursions into established work zone limits, and the movement of a train through a switch left in the wrong position.” 49 U.S.C. 20157(i)(3). While there are different PTC system configurations, and there is no specific technological model that defines a PTC system, all PTC systems generally have the same four parts: (1) an onboard apparatus for the locomotive controlling each applicable train; (2) wayside devices such as wayside interface units; (3) a centralized dispatch system; and (4) a communications system linking these components.

On December 11, 2012, FRA published a notice of proposed rulemaking (NPRM) primarily to amend its existing PTC regulations to provide covered railroads with additional regulatory guidance and flexibility for their implementation of this statutory mandate. 77 FR 73589. Having considered public comments in response to the NPRM and FRA’s subsequent notice of clarification issued on January 28, 2013 (78 FR 5767), and having later met with the PTC Working Group (PTC WG) of the Railroad Safety Advisory Committee (RSAC), FRA now responds to the comments on the proposed regulatory changes and issues this final rule, which will become effective on [INSERT DATE 60 DAYS FROM DATE OF PUBLICATION IN THE FEDERAL REGISTER].

For years, FRA has supported the nationwide proliferation and implementation of PTC systems, forecasting substantial benefits of advanced train control technology in supporting a variety of business and safety purposes. In 2005, for example, FRA promulgated regulations

providing for the voluntary implementation of processor-based train control systems. See 70 FR 11,052 (Mar. 7, 2005) (codified at 49 CFR part 236, subpart H). However, implementation was not mandated by FRA because the costs for the systems far outweighed the possible safety benefits at that time.

Partially as a consequence of certain very severe railroad accidents, coupled with a series of other less serious accidents, Congress passed RSIA, which mandates the implementation of PTC systems by December 31, 2015, on lines meeting certain thresholds. RSIA requires PTC system implementation on all Class I railroad main lines that carry poison- or toxic-by-inhalation hazardous (PIH or TIH) materials and 5 million gross tons (MGT) or more of annual traffic, and on any railroad's main line tracks over which intercity or commuter rail passenger train service is regularly provided. In addition, RSIA provides the Secretary of Transportation (Secretary) with the authority to require PTC system implementation on any other line. The Secretary has delegated this authority to the Administrator of FRA. 49 CFR 1.89 (formerly codified at 1.49).

FRA's existing PTC regulations (codified primarily in 49 CFR part 236 subpart I) include various exceptions from mandatory PTC system implementation. For instance, the de minimis exception was developed to provide railroads an opportunity to avoid PTC system implementation on certain freight-only track segments where the burdens of the regulation would yield a gain of trivial or no value. See 49 CFR 236.1005(b)(4)(iii). In accordance with FRA's statutory authority, FRA's existing regulations also include a limited operations exception, which is for passenger operations or segments over which limited or no freight railroad operations occur. 49 CFR 236.1019(c).

In a petition for rulemaking dated April 22, 2011 ("Petition"), the Association of American Railroads (AAR) requested that FRA initiate a rulemaking to expand the de minimis

exception and otherwise amend the rules concerning the limited operations exception, en route failures of trains operating within PTC systems, and the discontinuance of signal systems once PTC systems are installed. AAR also requested that FRA develop a new exception that would allow unequipped trains associated with certain yard operations to operate within PTC systems. In response to the Petition, FRA issued an NPRM on December 11, 2012, proposing several changes to part 236, subpart I, and expressing concerns over several other suggestions made in the Petition. The scope of the rulemaking was later clarified in a notice of clarification published January 28, 2013, in order to ensure that all commenters were aware that all of the Petition's proposals remained open for consideration.

Having considered the public comments on the NPRM and notice of clarification and discussions with the RSAC PTC Working Group, FRA is promulgating this final rule. The rule makes substantial revisions to the de minimis exception for freight-only track segments under 49 CFR 236.1005(b)(4)(iii). In particular, this final rule revises the annual car limitation to remove cars containing only a residue¹ of PIH materials; replaces the criterion "ruling grade of less than one percent" with the term "heavy grade" as defined in FRA's end-of-train device rule; limits to two per day the number of trains carrying any quantity of PIH materials; and replaces the temporal separation requirement with a requirement that a train carrying any quantity of PIH materials be operated with a vacant block ahead of and behind the train. A new exception for PTC-unequipped locomotives used in freight operations and PTC-unequipped freight trains has been added, which allows yard movements by these locomotives and trains to operate on PTC-equipped main track with speed restrictions and with operating rules in place to protect against conflicting movements. Further, the en route failure provision at 49 CFR 236.1029 has also been

¹ As defined in 49 CFR 171.8.

revised to remove the requirement that an absolute block be placed in advance of train movements where the onboard PTC apparatus fails en route, as well as to add several temporary exceptions that last from the effective date of the final rule through the two years after the statutory deadline for PTC system implementation. In addition to these changes, the final rule provides in 49 CFR part 235 an alternative method for reviewing some applications for signal system modifications related to PTC system implementation and makes a number of technical corrections to 49 CFR parts 234 and 236.

For the first 20-years of the final rule, the estimated quantified benefits to society, due to the regulatory changes, total approximately \$700 million discounted at 7 percent and \$922 million discounted at 3 percent. The largest components of the benefits come from reduced costs of PTC system wayside components because of extensions of the de minimis risk exception under 49 CFR 236.1005(b)(4)(iii) and reduced costs of onboard PTC systems on locomotives used in freight operations in yard areas. A smaller benefit, independent of the other benefits, comes from changes to the application process for a discontinuation or material modification of a signal system under 49 CFR part 235 where the application would have been filed as part of a PTC system installation.

FRA analyzed the final rule under three cases. The “base case” is FRA’s best estimate of the likely impact of the final rule. To address uncertainty related to assumptions and inputs, FRA also analyzed a “high case,” where the impacts are greater than FRA’s best estimate, and a “low case,” where the impacts are less than FRA’s best estimate. The cases used for the sensitivity analysis are discussed in more detail below, in the discussion of regulatory impact. All values in the analysis are measured in 2009 dollars. FRA is using 2009 dollars throughout

this analysis, to aid in comparison to the analysis of the original 2010 PTC rule. The following table presents the quantified benefits discounted over 20 years:

	Discount Factor	
	7 percent	3 percent
Base case		
Applications Avoided Benefit	\$397,319	\$446,926
Wayside Installation Benefit	\$446,266,012	\$587,977,605
Onboard Installation Benefit	\$252,858,508	\$333,153,625
Total Benefit	\$699,521,839	\$921,578,156
High case		
Applications Avoided Benefit	\$397,319	\$446,926
Wayside Installation Benefit	\$892,532,024	\$1,175,955,209
Onboard Installation Benefit	\$316,073,135	\$416,442,032
Total Benefit	\$1,209,002,478	\$1,592,844,167
Low case		
Applications Avoided Benefit	\$397,319	\$446,926
Wayside Installation Benefit	\$328,700,721	\$433,079,503
Onboard Installation Benefit	\$180,785,397	\$238,193,726
Total Benefit	\$509,883,437	\$671,720,155

Totals in each respective category may not add due to rounding.

For the same 20-year period, the estimated quantified cost totals \$6.61 million discounted at 7 percent and \$9.75 million discounted at 3 percent. The costs associated with the regulatory relief result from a slight increase in accident avoidance risk. FRA was able to estimate the monetized costs affected by changes in the de minimis provisions, but was not able to estimate the costs of changes to the provision affecting locomotives in yard areas. The following table presents the total quantified costs of the final rule:

	Discount Factor	
	7 percent	3 percent
Base Case	\$6,609,680	\$9,752,784
High Case	\$6,609,680	\$9,752,784
Low Case	\$4,937,849	\$7,285,947

The net benefit amounts for each case, subtracting the costs from the benefits, provide the following results:

	Discount Factor	
	7 percent	3 percent
Base Case	\$692,912,160	\$911,825,373
High Case	\$1,202,392,799	\$1,583,091,384
Low Case	\$504,945,587	\$664,434,208

The analysis indicates that the savings of the final rule far outweigh the cost.

II. Statutory and Regulatory Background and Proceedings to Date

The President signed RSIA into law on October 16, 2008, mandating PTC system implementation by December 31, 2015. To effectuate this goal, RSIA required the covered railroads to submit for FRA approval a PTC implementation plan (PTCIP) within 18 months (i.e., by April 16, 2010).

On July 27, 2009, FRA published an NPRM regarding the mandatory implementation and operation of PTC systems in accordance with RSIA. During the comment period for that proceeding, CSX Transportation, Inc. (CSX) suggested that FRA create a de minimis exception to the requirement that lines carrying PIH materials traffic (but not applicable passenger traffic) be equipped with PTC systems.

The final rule, published on January 15, 2010, included a de minimis exception, since FRA believed that it contained significant merit and that it fell within the scope of the issues set forth in the proposed rule. However, since none of the parties had an opportunity to comment on this specific exception as provided in the final rule, FRA sought further comments on the extent of the de minimis exception. The further comments responsive to this issue were largely favorable, although AAR sought some further modification and clarification. In publishing its

second PTC system final rule on September 27, 2010, FRA decided not to amend the de minimis exception any further based on the comments submitted.

AAR, in its Petition dated April 22, 2011, requested that FRA initiate a rulemaking to expand the de minimis exception and otherwise amend the rules concerning the limited operations exception, en route failures of trains operating with PTC systems, and the discontinuance of signal systems once PTC systems were installed. AAR also requested that FRA develop a new exception to allow unequipped trains to operate on PTC lines during certain yard operations. On October 21, 2011, FRA held a meeting in Washington, DC with the PTC WG to the RSAC to seek input and guidance concerning the issues raised in AAR's Petition and other technical amendments. FRA facilitated a valuable group discussion relating to each of the proposed amendments.

Taking into account this input, FRA published an NPRM on December 11, 2012. With respect to the categorical de minimis exception at 49 CFR 236.1005(b)(4)(iii), FRA proposed to modify the categorical de minimis exception to raise the maximum number of freight cars containing PIH materials from fewer than 100 cars to fewer than 200 cars and revise the grade limitation to be more consistent with the definition of "heavy grade" present in 49 CFR part 232. FRA also proposed to remove the traffic limitation of 15 MGT from the general de minimis exception in paragraph (b)(4)(iii)(C), but not the categorical exception in paragraph (b)(4)(iii)(B). In response to AAR's suggestions for a yard move exception, FRA proposed to add a freight yard movement exception, which would authorize movements by unequipped locomotives over PTC-equipped main line track segments for the purpose of switching service or transfer train movements related to freight operations. FRA did not propose to create an additional limited operations exemption, remove oversight from signal system discontinuances,

or modify the default rules for resolving en route failures of a PTC system, though FRA requested comments on these elements of AAR's Petition. FRA also proposed a number of technical amendments to the signal and grade crossing regulations of 49 CFR parts 234, 235, and 236. After learning that some viewed the scope of the NPRM as ambiguous, FRA published a notice of clarification on January 28, 2013, to ensure that commenters would have an adequate opportunity to address each element of AAR's Petition. After the close of the comment period, FRA held a meeting of the RSAC PTC WG on May 24, 2013, in order to gather more information relating to the comments and an additional meeting on July 9, 2013, to discuss draft rule text.

III. Public Participation

A. RSAC Process and the PTC Working Group

In March 1996, FRA established RSAC, which provides a forum for developing consensus recommendations to the Administrator of FRA on rulemakings and other safety program issues. 61 FR 9740 (Mar. 11, 1996). RSAC's charter under the Federal Advisory Committee Act (Public Law 92-463) was most recently renewed in 2014. 79 FR 28591 (May 16, 2014).

RSAC includes representation from all of FRA's major stakeholders, including railroads, labor organizations, suppliers and manufacturers, and other interested parties. An alphabetical list of RSAC members includes the following:

AAR;

American Association of Private Railroad Car Owners;

American Association of State Highway and Transportation Officials (AASHTO);

American Chemistry Council (ACC);

American Petroleum Institute;

American Public Transportation Association (APTA);

American Short Line and Regional Railroad Association (ASLRRA);

American Train Dispatchers Association;

Association of Railway Museums;

Association of State Rail Safety Managers (ASRSM);

Brotherhood of Locomotive Engineers and Trainmen (BLET);

Brotherhood of Maintenance of Way Employees Division (BMWED);

Brotherhood of Railroad Signalmen (BRS);

The Chlorine Institute, Inc.;

Federal Transit Administration (FTA);*

The Fertilizer Institute;

High Speed Ground Transportation Association;

Institute of Makers of Explosives;

International Association of Machinists and Aerospace Workers;

International Brotherhood of Electrical Workers (IBEW);

Labor Council for Latin American Advancement;*

League of Railway Industry Women;*

National Association of Railroad Passengers;

National Association of Railway Business Women;*

National Conference of Firemen & Oilers;

National Railroad Passenger Corporation (Amtrak);

National Railroad Construction and Maintenance Association (NRCMA);

National Transportation Safety Board (NTSB);*

Railway Passenger Car Alliance;

Railway Supply Institute;

Safe Travel America;

Secretaria de Comunicaciones y Transporte;*

Sheet Metal Workers International Association;

Tourist Railway Association Inc.;

Transport Canada;*

Transport Workers Union of America;

Transportation Communications International Union/BRC;

Transportation Security Administration; and

United Transportation Union (UTU).

*Indicates associate, non-voting membership.

When appropriate, FRA assigns a task to RSAC, and after consideration and debate, RSAC may accept or reject the task. If the task is accepted, RSAC establishes a working group that possesses the appropriate expertise and representation of interests to develop recommendations to FRA for action on the task. These recommendations are developed by consensus. A working group may establish one or more task forces to develop facts and options on a particular aspect of a given task. The task force then provides that information to the working group for consideration.

If a working group comes to a unanimous consensus on recommendations for action, the proposal is presented to the full RSAC for a vote. If the proposal is accepted by a simple majority of RSAC, the proposal is formally recommended to FRA. FRA then determines what

action to take on the recommendation. Because FRA staff members play an active role at the working group level in discussing the issues and options and in drafting the language of the consensus proposal, FRA is often favorably inclined toward the RSAC recommendation.

However, FRA is in no way bound to follow the RSAC recommendation, and the agency exercises its independent judgment on whether the recommended rule achieves the agency's regulatory goal, is soundly supported, and is in accordance with policy and legal requirements. Often, FRA varies in some respects from the RSAC recommendation in developing the actual regulatory proposal or final rule. Any such variations would be noted and explained in the rulemaking document issued by FRA. If the working group or RSAC is unable to reach consensus on recommendations for action, FRA will proceed to resolve the issue through traditional rulemaking proceedings.

In 2009, FRA re-convened the PTC Working Group that had produced the rule recommendation resulting in 49 CFR part 236, subpart H, the set of regulations governing the voluntary implementation of processor-based signal and train control systems. The following organizations contributed members: AASHTO; ACC; Amtrak, APTA; ASLRRA; AAR; ASRSM; BMWED; BLET; BRS; FTA,* IBEW; NRCMA; NTSB; RSI; Transport Canada; * Tourist Railway Association, Inc.; and UTU. (The asterisk indicates associate, non-voting membership.)

While the rule was not put before the PTC Working Group or the RSAC to develop a consensus on recommendations for action, FRA consulted with the PTC Working Group several times in the development of both the NPRM and this final rule.

B. Comments Received

1. In General

FRA received nine comments in response to the NPRM. Two of these comments were from individuals. The remaining seven were from GE Transportation; the Western Interstate Energy Board High Level Radioactive Waste Committee (WIEB); Amtrak; AAR; ACC; a joint comment from the Brotherhood of Railroad Signalmen, Sheet Metal, Air, Rail and Transportation Workers, and the American Train Dispatchers Association; and the Transportation Trades Department, AFL-CIO. The majority of the content of these comments is discussed in the appropriate portions of the Section-by-Section Analysis. However, some portions of the Petition and comments received do not pertain to sections modified by this final rule. Unless otherwise noted, all references below to a “section” or to “§” refer to a section in title 49 of the Code of Federal Regulations (CFR).

2. Comments on § 236.1021, Discontinuances, Material Modifications, and Amendments, which Is Unchanged

AAR, in its Petition, recommends that FRA allow automatic approval for the removal of cab signal systems from PTC-equipped lines or the removal of any signal system where stand-alone PTC systems are used, avoiding the need for an application pursuant to 49 CFR part 235 or the parallel process established by § 236.1021. However, the Petition did not provide adequate justification to support the categorical approval of such changes without any FRA oversight. AAR’s petition even conceded that new PTC systems are likely to suffer en route failures, as discussed in more detail below. Such failures would be mitigated by the presence of an underlying signal system. FRA noted these difficulties in the NPRM, and the comments received did not provide a basis to conclude otherwise; the only comment received on the matter was a comment against the proposal. Additionally, Amtrak’s comment on § 235.7, discussed

below, reflects a similar concern with the proposal for this section. The final rule does not amend § 236.1021.

3. Comments on Paragraph (c), Limited Operations Exception, of § 236.1019, Main Line Track Exceptions, which Is Unchanged

AAR also suggested in its Petition that FRA should exempt certain limited freight operations in a similar manner as provided for limited passenger operations under § 236.1019(c). AAR suggested exempting track segments over which not more than two trains containing PIH materials carloads are transported daily, where the annual freight traffic over the line is less than 15 MGT. RSIA provided FRA with the authority to redefine “main line” for intercity or commuter rail passenger transportation routes or segments where there are limited or no freight operations. See 49 U.S.C. 20157(i)(2)(B). Under this authority, FRA, in § 236.1019(c), provides an exception from PTC system implementation on line segments where there are limited or no freight operations and where either all trains are limited to restricted speed, temporal separation is provided between passenger trains and other trains, or passenger service is operated under a risk mitigation plan. The purpose of § 236.1019(c) is to eliminate the requirement for PTC system installation in the case of low-risk passenger operations.

Because the express language of 49 U.S.C. 20157(i)(2)(B) only applies to “intercity rail passenger transportation or commuter rail passenger transportation routes or segments,” FRA does not believe it is within its authority to use this statutory framework in order to exclude track segments carrying PIH materials from the PTC implementation mandate. Nevertheless, FRA recognizes that the exception sought by AAR already exists, albeit in a different and limited form. The exception of § 236.1005(b)(4)(iii)(C) allows railroads to apply for an exception from the requirement to implement PTC systems on track segments where the railroad can

demonstrate that the track segment poses an equivalent or lesser degree of risk as the track segments covered by the categorical de minimis exception. AAR, in its comment, recommended a new de minimis exception for track segments with only two trains carrying PIH materials per day and fewer than 300 loaded PIH cars annually, or 150 loaded PIH cars in dark territory. Given that the daily limit on trains carrying PIH materials has been added to the existing categorical de minimis exception as discussed above, this provision would effectively replace the categorical de minimis exception of § 236.1005(b)(4)(iii). While there may be some limited circumstances under which FRA could view a track segment with as many as 300 loaded PIH cars as posing an equivalent or lesser degree of risk, FRA does not have an adequate basis for concluding that would be the case for all circumstances. Accordingly, the final rule does not adopt AAR's suggestion to amend § 236.1019.

4. Comments on Cost of Transportation of Certain Radioactive Lading

The WIEB comment expresses concerns over costs of transportation of spent nuclear fuel and high-level radioactive waste as they may relate to PTC system implementation. However, these concerns are outside the scope of the present rulemaking.

IV. Section-by-Section Analysis

Amendments to 49 CFR Part 234, Grade Crossing Safety, Including Signal Systems, State Action Plans, and Emergency Notification Systems

Section 234.207 Adjustment, repair, or replacement of component.

Until amended by this final rule, paragraph (b) of § 234.207 read as follows: “Until repair of an essential component is completed, a railroad shall take appropriate action under § 234.105, Activation failure, § 234.106, Partial activation, or § 234.107, False activation, of this part.” During training and enforcement actions, FRA has found the regulated entities to have

misconceptions and misunderstandings regarding the response required under § 234.207. FRA believes that various regulated entities have misread paragraph (b) to indicate that the necessary response to any essential component of a highway-rail grade crossing warning system failing to perform its intended function under paragraph (a) is only applicable where the result of such failure is one of the three types of warning system malfunctions listed in paragraph (b). In the NPRM, FRA proposed to modify the language of paragraph (b) to make clear that if an essential component fails, it must be repaired without undue delay and regardless of whether the component failure results in an activation failure, partial activation, or false activation.

In response to this proposal, one individual commenter asked under what circumstances an essential component could fail without constituting one of these three error states. FRA believes that such a circumstance could arise specifically in the context of a partial activation, which is defined to be an “activation of a highway-rail grade crossing warning system indicating the approach of a train, however, the full intended warning is not provided due to one of the following conditions: (1) at non-gated crossings equipped with one pair of lights designed to flash alternately, one of the two lights does not operate properly (and approaching motorists cannot clearly see flashing back lights from the warning lights on the other side of the crossing; (2) at gated crossings, the gate arm is not in a horizontal position; or (3) at gated crossings, any portion of a gate arm is missing if that portion normally had a gate arm flashing light attached.” This exclusive list of grade crossing partial activation failures requires remedial action under § 234.106, but does not include all potential failures of essential components. For instance, at a gated crossing equipped with two pairs of lights designed to flash alternately, if one pair of lights is not operating as intended, that failure does not constitute a partial activation or activation

failure, but is nonetheless a failure of an essential component of the grade crossing warning system that should be repaired without undue delay.

The commenter also requested that FRA enumerate what constitutes an “essential component.” FRA declines to do so, as the language is consistent with FRA’s longstanding signal and train control rules.² Given the variety of grade crossing warning systems currently in use, an exclusive list of components deemed essential would bloat the rule and would likely serve only to create more confusion.

To resolve the ambiguity of § 234.207, paragraph (a) is amended to make clear that all failures of essential components, including but not limited to failures resulting in an activation failure, partial activation, or false activation, must be investigated to determine the cause of the failure to perform their intended function and the failed components must be adjusted, repaired, or replaced without undue delay. Paragraph (b) is amended to make clear that, for those failures of essential components that constitute false activations, partial activations, and activation failures, railroads must also comply with §§ 234.105, 234.106, or 234.107, as appropriate, until such adjustments, repairs, or replacements are made.

Section 234.213 Grounds.

Until amended by this final rule, § 234.213 indicated that each circuit that affects the proper functioning of a highway-rail grade crossing warning system shall be kept free of any ground or combination of grounds that will permit a current flow of 75 percent or more of the

² See 49 CFR 236.11 (“When any component of a signal system, the proper functioning of which is essential to the safety of train operation . . .”), 49 CFR 236.915 (“Until repair of such essential components [is] completed, a railroad shall take appropriate action as specified in the PSP.”), and 49 CFR 236.1029 (“Until repair of such essential components [is] completed, a railroad shall take appropriate action as specified in its PTCSP.”). See also 59 FR 3051, 3056 (Jan. 20, 1994), proposing the “essential component” and the language is similar to the requirement in the present FRA signal rules at 49 CFR part 236.

release value of any relay or electromagnetic device in the circuit. With the migration of many warning systems, subsystems, and components from relay-based to microprocessor-based technologies, FRA believes that a more comprehensive indicator of prohibited current flow grounds is required. In the NPRM, FRA proposed to amend this language to prohibit any ground that could “adversely affect the proper safety-critical functioning of the warning system.”

Several commenters noted the ambiguity of this language, and suggested revisions to both define the quantity at issue and the meaning of “adversely affect.” FRA agrees that the proposed language was unnecessarily ambiguous, and therefore is amending the proposed rule text to be consistent with its prior prohibition while addressing processor-based systems. The final rule prohibits any ground or combination of grounds that will permit a current flow of 75 percent or more of the value necessary to retain a permissive state of a safety appliance such as a highway-rail grade crossing warning system. Because it is neither feasible nor necessary to test the internal microprocessor or microprocessor memory circuitry for ground leakage current, the final rule also explicitly excludes such circuitry from the grounds prohibition. To improve the readability of the rule, the text has been separated into two paragraphs: paragraph (a) providing the limitation on grounds, and paragraph (b) listing the exceptions.

Amendments to 49 CFR Part 235, Instructions Governing Applications for Approval of a Discontinuance or Material Modification of a Signal System or Relief from the Requirements of Part 236

Section 235.6 Expedited application for approval of certain changes.

This final rule adds new § 235.6, which allows specified changes within existing signal or train control systems to be made without the necessity of filing an application for approval with FRA’s Associate Administrator for Railroad Safety/Chief Safety Officer (Associate

Administrator). The amendment provides each railroad a simplified process to obtain approval to modify existing signal systems directly associated with PTC system implementation.

Under a different provision, § 235.7, Changes not requiring filing of application, a railroad may avoid filing an application for a broad variety of modifications to a signal system, so long as the resultant arrangement is in compliance with part 236. FRA recognizes that, during the process of installing the wayside PTC equipment, the railroads may have the resources and time available to implement needed or desired wayside signal system upgrades. Such modifications generally require FRA approval in accordance with § 235.5, Changes requiring filing of application. Given that the outcome of such modifications must be in compliance with part 236, FRA now creates an expedited approval process for modifications of the signal system by the installation, relocation, or removal of signals, interlocked switches, derails, movable-point frogs, or electronic locks in an existing system where the modification is directly associated with the implementation of PTC systems. Instead of filing an application for approval to the Associate Administrator, a railroad is permitted to instead submit its request to the FRA regional office that has jurisdiction over the affected territory, with a copy provided to representatives of signal employees, similar to the information provided under the provisions for pole line circuit elimination, § 235.7(c)(24)(vi). If the Regional Administrator for the appropriate regional office denies approval of the requested modification, the request would then be forwarded to the FRA Railroad Safety Board as an application for signal system modification. However, express approval from the Regional Administrator is necessary before the modifications may begin. In the NPRM, this provision was located in a new paragraph of § 235.7, but has been moved to a new section to reflect that it does not fall cleanly into either § 235.5 or § 235.7.

Amtrak, in its comment, sought clarification that FRA does not intend to allow the removal of signal systems without approval under part 235. This reading is correct; the amendments to § 235.7 do not allow the discontinuance of a signal system nor a decrease of its limits. FRA rejected such a proposal, as discussed in more detail below in the analysis of § 236.1021. Section 235.5 defines three types of changes: discontinuance; decrease of limits; and modification. The language of § 235.6 authorizes this expedited procedure only for modifications, and not for discontinuances or decreases of limits. Accordingly, a railroad may not use the process defined in § 235.7(d) for the removal of an entire signal system. Amtrak continues to have the authority to comment on any such proposed removal through a part 235 discontinuance proceeding or review of a railroad's Request for Amendment (of a plan or system made by a PTC railroad in accordance with § 236.1021) (RFA) requesting discontinuance in accordance with § 236.1021(c).

AAR asked that FRA revise this section to be consistent with § 235.7(c)(24)(vi), governing modifications of signal systems as part of a conversion from pole line circuits to electronic (coded) track circuits. Paragraph (c)(24)(vi) provides that a signal system modification will be deemed acceptable unless the Regional Administrator stays action within 60 days of receiving notice from the railroad of the proposed modifications, whereas paragraph (d) requires an affirmative response from the Regional Administrator. Because FRA anticipates signal system modifications related to PTC system implementation to be of a broader nature than the modifications associated with pole line conversion, the 60-day deadline of the pole line conversion provision would not provide adequate time for review in all cases. However, FRA will work expeditiously to respond to all railroad requests for modifications under new § 235.6.

Amendments to 49 CFR Part 236, Rules, Standards, and Instructions Governing the Installation, Inspection, Maintenance, and Repair of Signal and Train Control Systems, Devices, and Appliances

Section 236.0 Applicability, minimum requirements, and penalties.

The final rule removes paragraph (i), Preemptive effect. FRA believes that this provision is unnecessary because 49 U.S.C. 20106 sufficiently addresses the preemptive effect of FRA's regulations. Providing a separate Federal regulatory provision concerning the preemptive effect of 49 CFR part 236 is duplicative and unnecessary. FRA received no comments on the proposal to remove the provision on preemptive effect.

Section 236.2 Grounds.

Mirroring old § 234.213, old § 236.2 provided that each circuit that affects the safety of train operations shall be kept free of any ground, or combination of grounds, that permits a current flow of 75 percent or more of the release value of any relay or electromagnetic device in the circuit. For the same reasons cited in the discussion of old and revised § 234.213 above, the final rule amends old § 236.2 to prohibit any ground or combination of grounds that permits a current flow of 75 percent or more of the value necessary to retain a permissive state of a safety appliance, such as a signal lamp or locking circuit. As with § 234.213, the text has been separated into two paragraphs: paragraph (a) providing the limitation on grounds, and paragraph (b) listing the exceptions.

Section 236.15 Timetable instructions.

In the interest of providing clarity, FRA amends old § 236.15 to require explicitly the designation of PTC system territory, equal to the other types of signal and train control systems that are already required to be designated in a railroad's timetable instructions (i.e., "[a]utomatic

block, traffic control, train stop, train control, and cab signal . . .”). During the July 9, 2013, PTC WG meeting, FRA discussed broadening the old provision to require that “all signal and train control systems” be designated in timetable instructions, in order to account for future advances in signal and train control systems. However, the discussion indicated that this change would cause more confusion, and accordingly the final rule simply adds PTC to the list of systems governing operations in a territory that must be designated in timetable instructions. Beyond that issue, FRA received no comments on this provision as proposed.

Section 236.567 Restrictions imposed when device fails and/or is cut out en route.

Old § 236.567, which applied to territories where “an automatic train stop, train control, or cab signal device fails and/or is cut out en route,” required trains with en route failures to proceed in a specified restrictive manner until reaching the next available point of communication, where a report had to be made to a designated officer and an absolute block had to be established in advance of the train on which the device was inoperative. Once the railroad established the absolute block (under the manual block system), the train was permitted to proceed at a speed not exceeding 79 miles per hour (mph), premised upon the same requirement in old § 236.0 as applicable to a train operating in a manual block system with an absolute block in advance of the train. However, effective on or after January 17, 2012, manual block systems are no longer approved as a method of operation for freight trains operating at greater than 49 mph or passenger trains operating at greater than 59 mph under § 236.0(c)(2). See 75 FR 2598 at 2607 (Jan. 15, 2010). This change to § 236.0 resulted in an inconsistency between § 236.0 and old § 236.567, which was not contemporaneously revised.

To rectify this inconsistency, FRA’s present final rule amends old § 236.567 to reflect the amendment previously made to § 236.0. Accordingly, for trains operating in territory without a

block signal system installed and operated in compliance with part 236, this amendment to old § 236.567 reduces the maximum allowable speed from 79 mph to 59 mph for passenger trains and to 49 mph for freight trains. Where a block signal system is operational, the maximum allowable speed remains at 79 mph. FRA received no comments on this provision as proposed.

Because the harmonizing changes made the old paragraph structure too complicated, FRA has reorganized the section with discrete paragraphs for each of the three operating phases: (1) prior to the report to a designated officer; (2) after the report but prior to the establishment of an absolute block in advance of the train; and (3) after the establishment of the absolute block. This reorganization does not change the meaning of § 236.567, except as discussed above. For trains operating without a block signal system installed and operated in compliance with part 236, this amendment to § 236.567 reduces the maximum allowable speed from 79 mph to 59 mph for passenger trains and to 49 mph for freight trains. Where a block signal system is operational, the maximum allowable speed remains at 79 mph. The language has also been revised to replace the phrase “medium speed” with an explicit speed, 40 mph, to reduce confusion.

Section 236.1003 Definitions.

The final rule replaces “PIH Materials” with “PIH materials” to correct an error in capitalization and to change the definition to make clear that even though the term is in the plural, the term includes the singular (i.e., only one PIH material).

Section 236.1005 Requirements for Positive Train Control systems.

Paragraph (a) specifies PTC system functionality and implementation requirements. A typographical error is corrected in the table header in paragraph (a); an asterisk is present with no accompanying text.

Paragraph (b) provides for certain exclusions and the temporary rerouting of unequipped locomotives, locomotive consists, and trains (i.e., locomotives, locomotive consists, and trains not equipped with PTC) on PTC-system-equipped track. Until amended by this final rule, the allowable exclusions of § 236.1005(b)(4)(iii) addressed track segments with de minimis risk based upon specified criteria that can be expected to result in a risk a PTC-preventable accident being negligible on the subject track segment. The categorical criteria under old paragraph (b)(4)(iii)(A) and (B) were as follows:

- A minimal amount of PIH materials cars transported (fewer than 100 cars per year, either loads or residue);
- A train speed limitation of either Class 1 or 2 track as described in 49 CFR part 213;
- Less than 15 MGT of traffic annually;
- A ruling grade of less than 1 percent; and
- A train-spacing requirement where any train transporting a car containing PIH materials (including a residue car) shall be operated under conditions of temporal separation from other trains.

A general de minimis exception under paragraph (b)(4)(iii)(C) was also available for additional line segments carrying fewer than 100 PIH cars annually and less than 15 MGT annually and where it was established to the satisfaction of the Associate Administrator that risk mitigations will be applied that will ensure that risk of a release of PIH materials is negligible.

In its Petition, AAR made certain proposals to modify these criteria, which are further discussed below. In the NPRM, FRA adopted some of these proposals, modified others, and rejected some elements. In this final rule, FRA is adopting additional elements of the Petition and adjusting the general de minimis exception for clarity.

In considering the suggestions contained in the Petition, FRA recognizes that any de minimis exception (in the generic sense of the term, as developed in case law) must apply in a way that fulfills Congress' intent. In other words, such exceptions must only cover situations where "the burdens of regulation yield a gain of trivial or no value" and should apply not "to depart from the statute, but rather [as] a tool to be used in implementing the legislative design." Environmental Defense Fund, Inc. v. EPA, 82 F.3d 451, 466 (D.C. Cir. 1996) (inner quotations omitted); Alabama Power Co. v. Costle, 636 F.2d 323, 360-61 (D.C. Cir. 1979).

FRA continues to believe that de minimis exceptions are warranted for low-density main lines with minimal safety hazards that carry a truly minimal quantity of PIH materials. The preamble discussion to the final rule published January 15, 2010, focused primarily on the risks associated with PIH materials exposure. However, any de minimis exception must also consider the risks associated with the events that Congress intended PTC systems must be designed to prevent. In other words, when a de minimis exception applies, there must be de minimis risk that a train-to-train collision, overspeed derailment, incursion into a roadway worker zone, or movement over a switch in the wrong position may occur. See 49 U.S.C. 20157(i)(3).

After reviewing the Petition and the comments received in response to the NPRM, FRA is amending the old categorical de minimis exception at § 236.1005(b)(4)(iii)(A) and (B) to reflect with the restrictions discussed below.

1. Annual Limit on Number of PIH Cars Carried on the Track Segment

The final rule moves the annual limitation on cars carrying PIH materials from paragraph (b)(4)(iii)(A) into paragraph (b)(4)(iii)(B) and restricts its scope to no longer include cars containing only a residue of PIH material. As background, first, AAR proposed that the limit of fewer than 100 cars apply to loaded PIH cars only, not residue cars. FRA responded in the

NPRM by proposing in § 236.1005(b)(4)(iii)(A) to increase the total car limit to fewer than 200 cars containing PIH materials, including both loaded cars and residue cars, expressing concern that completely excluding residue cars from consideration could increase the risk of a PIH materials release beyond a negligible level. As was noted in the NPRM, most residue tank cars are routed back to the original shipper along the identical route that brought them to the location where they were offloaded. While this fact supported FRA's proposal, it also indicated that the impact of excluding residue cars from consideration would not dramatically increase the set of track segments eligible for the de minimis exception, as most track segments that would qualify under the limit of fewer than 100 loaded cars would also qualify under the limit of fewer than 200 loaded and residue cars. The PTC WG identified two situations where residue cars are not travelling back along an identical route to their original shipment route. First, AAR identified situations where multiple track segments deliver loaded tank cars, with residue car traffic being consolidated for a return trip. Second, several members of the PTC WG raised the issue of tank car repair facilities. Because a tank car is considered to be a residue car unless it is refilled or cleaned and purged, the locations where the cleaning and purging take place will necessarily have a disproportionately high volume of residue tank cars that does not necessarily entail a disproportionately high level of risk from the residue of PIH materials. As the hazards related to the movement of residue PIH cars are diminished somewhat compared to the hazards of loaded PIH cars, and considering the public interest in purging, cleaning, and repairing cars handling PIH materials in a timely manner, FRA finds it unnecessary to address those limited number of line segments that may haul significantly more residue cars than loaded cars. Moreover, the new limitations that must be met to qualify under the de minimis exception further reduce the risk

from these residue cars. For these reasons, FRA concludes that removing residue cars from the annual limit of fewer than 100 cars is appropriate.

This conclusion does not change DOT's underlying position on the risk posed by tank cars containing a residue of hazardous materials. Rather, FRA recognizes the contextual difference between regulating the treatment of individual tank cars containing a residue of hazardous materials and assessing the risk to a track segment as a whole based on the total number of tank cars containing a residue of hazardous materials operating over the track segment on an annual basis. It remains imperative for each car containing a residue of hazardous materials to be properly marked, labeled, placarded, and inspected prior to being offered for transportation, and to conform with all other regulations applicable to the transportation of hazardous materials. However, when viewed in conjunction with the other limitations of the de minimis exception, the movement of residue cars is not a determining factor in increasing the level of risk on a given track segment as a whole above a negligible level, and the final rule therefore removes cars containing only a residue of PIH materials from consideration in the annual car limit.

2. New Limit on the Number of Trains per Day Carrying Any Quantity of PIH Materials on the Track Segment

The old rule text did not provide a daily train limitation. However, with the potential increase in PIH materials traffic moving over a track segment under this final rule, FRA views it to be necessary to look not only to the risk profile of a track segment on an annual basis, but also on a day-by-day basis. In the NPRM, FRA proposed to add the limitation on trains per day carrying PIH materials to ensure that the risk of PIH materials release remained negligible in light of the other changes made to the de minimis exception. Under ordinary circumstances, one

might reasonably expect the overall number of cars containing PIH materials to be distributed throughout the year, such that the train-per-day limit would not be necessary. AAR noted this in its comment, opposing the imposition of the limit but stating, “[f]rom an operational perspective, this limit is not a significant issue because the annual limit on the number of PIH cars makes a 2-train per day limit insignificant.” This perspective assumes some degree of uniform distribution of cars carrying PIH materials, but that assumption may not be met in all circumstances. Absent a daily limitation on the number of trains carrying PIH materials, a railroad would be permitted to operate a large number of trains carrying PIH materials in a single day on a track segment subject to the de minimis exception, while nonetheless increasing the exposure to the risk of PIH-materials release on that day well above what would be the case in the ordinary situation of transporting cars containing PIH materials regularly throughout the year, due to the increased PIH materials traffic on that particular day. The qualitative judgment of FRA is that such a potential outcome would likely exceed negligible risk and therefore the final rule adds an additional limit of two trains carrying any quantity of PIH materials per day to the de minimis exception. Because this restriction is not a calculation of the level of risk posed by aggregate movements over the track segment, but rather governs the day-to-day operations on the track segment, this limitation includes cars containing only a residue of PIH materials. The trains-per-day limitation removes such unusual operations from the scope of the general de minimis exception. It bears emphasis that AAR indicated in its comment that it viewed the limitation as “insignificant,” reflecting a degree of industry agreement with FRA’s underlying premise that the limitation will not reach the ordinary circumstances that it is not intended to address. Rather, the limitation precludes only the unusual outlier situations which are best handled under paragraph (b)(4)(iii)(C). A railroad anticipating one or more days upon which it expects to move

many trains carrying PIH materials may request that the track segment at issue be excluded despite the high number of trains carrying PIH materials on particular days by showing what steps will be taken to render the exposure to risk of PIH-materials release on those days to a level equivalent or lesser than the risk of operations where the transportation of cars containing PIH materials is divided throughout the year.

3. Limit to Class 1 or 2 Track Segments or Limit the Speed of the PIH Trains over the Track Segment

Until amended by this final rule, the categorical de minimis exception, under § 236.1005(b)(4)(iii)(B)(1), limited maximum authorized train speed on the subject track segment to that afforded for Class 1 (10 mph) or Class 2 (25 mph) tracks in order to reduce the kinetic energy available in any accident and to ensure that involved tank cars carrying PIH materials are capable of surviving the forces generated. AAR's Petition proposed that the regulation provide a speed limitation only for those trains transporting PIH materials. Specifically, AAR proposed a speed restriction of 40 mph (i.e., the same maximum authorized speed provided for certain rail-to-rail at-grade crossings under § 236.1005(a)(1)(i)), to be enforced by operating rules and only for trains carrying PIH materials. In the NPRM, FRA expressed concern that increasing the speed limit on the track segment from 25 mph to 40 mph would substantially increase the risk of PIH materials release due to the increase in kinetic energy in the event of a collision. However, comments received in response to the NPRM and discussions with the PTC WG indicate that the current track class limitation serves as a disincentive to maintain the track segment to a higher standard. By moving from a limitation based on track class (restricting the speed of all movement over the track segment) to a speed restriction for only those trains carrying PIH materials, the revised rule will encourage routing

the PIH materials traffic over track segments maintained to a higher quality, which should decrease the risk of track-caused incidents.³ Track-caused accidents and incidents are generally not PTC-preventable, but represent a larger percentage of accidents and incidents than PTC-preventable accidents and are appropriately considered when considering the overall level of risk posed by operations over a track segment.

In addition to the comments received and discussions during PTC WG meetings, FRA has also considered other limitations imposed on PIH materials traffic. When considering then-current tank car strength, the Pipeline and Hazardous Materials Safety Administration set a speed limitation of 50 mph for tank cars containing PIH materials. 49 CFR 174.86. Since that rulemaking, newer tank car designs have further reduced the probability of rupture in the event of collision or derailment due to improvements in structural design. When combined with the other limitations of the de minimis exception, the 40-mph limit is an appropriate replacement for the track class restriction that existed in old § 236.1005(b)(4)(iii)(B)(1).

In the NPRM, FRA also expressed concern regarding the enforcement of a speed restriction for trains carrying PIH materials. AAR responded in its comment by noting that any speed restriction would be subject to errors by the locomotive engineer, whether that speed restriction was imposed for all trains operating over a given track segment or only for those trains carrying PIH materials. This argument has merit; without a PTC system or automatic train control system, a train's speed is limited only by rule and is subject to human failure by the train crew. It is also not unusual for FRA regulations or railroad operating rules to require temporary

³ See, e.g., Athaphon Kawprasert and Christopher P. L. Barkan, Effect of Train Speed on Risk Analysis of Transporting Hazardous Materials by Rail, 2159 Transportation Research Record 59 (Dec. 2010), available at <http://trb.metapress.com/content/7682666175324228>.

speed restrictions for certain trains or certain track segments, such as where a significant track defect exists.

4. Limitation on the Grade of the Track Segment; Definition of “Heavy Grade”

In its Petition, AAR proposed that lines eligible for the categorical de minimis exception be restricted to grades that are not “heavy grades” as defined by FRA in part 232. “Heavy grade” is defined in § 232.407(a)(1).

The steeper the grade, the more susceptible a train operation becomes to concerns relating to train handling, overspeed, and other factors that may contribute to a PTC-preventable accident. FRA continues to believe that placing a limit on ruling grade helps to avoid situations in which an engineer may lose control of a train as a result of a failure to make a timely and sufficiently strong brake application. In the NPRM, FRA expressed concern with the train-specific nature of the proposed definition, as the requirement to implement PTC systems applies to track segments in addition to locomotives. The PTC WG discussed the issue and supported referencing the definition, with the possibility of civil penalties in instances where the trailing tonnage of a train causes the track segment to be classified as heavy grade. The NPRM proposed that track segments with average grades equal to or greater than one percent over three continuous miles and less than two percent over two continuous miles could qualify for the general de minimis exception despite being ineligible for the categorical de minimis exception. However, the train-specific criterion is specific enough that it is feasible to include in the categorical de minimis exception.

The final rule references § 232.407, such that a track segment will not qualify for the categorical de minimis exception if it has a “heavy grade” as that term is defined under that section for a train operating over the track segment. Any operation of a train with more than

4,000 trailing tons over a segment that has an average grade exceeding one percent over three continuous miles, and that has been excluded under the categorical de minimis exception, will constitute a violation of this § 236.1005.

5. Additional Operating Rule Risk Mitigations

As an additional risk mitigation, AAR's Petition recommended strengthening operating practices protecting against unauthorized incursions into roadway work zones on track segments that have received approval to avoid PTC system implementation under the de minimis risk provision. AAR proposed that—in the case of a train approaching working limits on a line subject to the de minimis exception—the train crew be required to call the roadway worker in charge at a minimum distance of two miles in advance of the working limits to advise of the train's approach. If the train crew does not have knowledge of the working limits prior to approaching within two miles of the working limits or if it is impracticable to provide notification two miles in advance, such as if the working limits are less than two miles from the initial terminal, AAR proposed that the train crew would be required to call the roadway worker in charge as soon as practicable. In the NPRM, FRA indicated that it viewed the criterion as covering the same requirements as existing operating rules. However, as preventing incursions into roadway work zones is a core function of PTC, it is appropriate for the categorical de minimis exception to include mitigations to reduce the risk of this form of PTC-preventable accident, and commenters expressed concern over protection for roadway workers. Accordingly, the final rule adopts the proposal of AAR's Petition and includes the requirement that a railroad adopt and comply with an operating rule requiring train crews approaching working limits to notify the roadway worker in charge at least two miles in advance of the working limits, or as soon as practical if the train crew does not have advance knowledge of the working limits.

6. Required Separation of PIH Materials Traffic from Other Trains on the Track

Segment

Until amended by this final rule, a requirement of the categorical de minimis exception was that trains carrying PIH materials be temporally separated⁴ from other trains. Temporal separation reduces the risk of train-to-train collisions, a core PTC function, by prohibiting other trains from operating on the track segment at the same time as any train carrying PIH material. In its Petition, AAR requested that FRA revise the requirement so that a vacant block ahead of and behind the train would constitute temporal separation. The NPRM explained that such a requirement would not be temporal separation, but requested comment on the concept as an alternative to temporal separation. AAR, in its comment, reiterated its argument from the Petition that this form of protection would suffice.

FRA previously expressed openness to the concept, and suggested that interested railroads use the general de minimis exception at § 236.1005(b)(4)(iii)(C) as the basis for excluding track segments using a vacant block ahead of and behind a train as an alternative means of protecting against train-to-train collisions. AAR's comment argued that the desire to substitute its alternative for the prior temporal separation requirement is industry-wide, suggesting that an industry-wide resolution of the proposal is appropriate. In light of the other elements of the categorical de minimis exception, FRA is revising the separation requirement to no longer require temporal separation, and instead allow track segments to qualify where any train carrying PIH materials is operated with a vacant block ahead of and behind the train.

7. Annual Traffic Density on the Track Segment for Categorical De Minimis Exception

⁴ For a discussion of the meaning of "temporal separation," see § 236.1019(e) and 49 CFR part 211, appendix A.

AAR recommended that if the other criteria for de minimis exceptions are met, the amount of annual traffic on the track segment should not disqualify it from eligibility for the exemption. With respect to paragraph (b)(4)(iii)(B), FRA has endeavored to address AAR's concerns with a provision that is broad enough to permit considerations of actual circumstances, limit this exception to track segments that would not otherwise need to have a PTC system implemented, and make explicit reference to the requirement for potential safety mitigations. FRA has chosen below 15 MGT as the area where mitigations are in place, or could be put in place, to establish a high sense of confidence that operations will continue to be conducted safely. FRA has concern that eliminating the traffic density criterion would result in an exception being outside the scope of the de minimis risk, and specifically that increasing the traffic density criterion would put the exception outside of FRA's statutory authority to grant a de minimis exception. As explained above, any de minimis exception must only cover situations where "the burdens of regulation yield a gain of trivial or no value." Environmental Defense Fund, Inc. v. EPA, 82 F.3d 451, 466 (D.C. Cir. 1996). A de minimis exception explicitly may not be granted where "the regulatory function does provide benefits, in the sense of furthering the regulatory objectives, but the agency concludes that the acknowledged benefits are exceeded by the costs." Alabama Power Co. v. Costle, 636 F.2d 323, 361 (D.C. Cir. 1979). The derailment data cited by AAR is only a portion of the data that needs to be considered, as it concerns only one of the four varieties of PTC-preventable accidents. When analyzing AAR's proposal, FRA found that the track segments AAR sought to exclude received disproportionately higher benefits from the implementation of PTC systems. It is therefore impossible for FRA to conclude that PTC implementation on those segments yields "a gain of trivial or no value": the gain is greater than the average track segment required to implement PTC systems. As such,

granting AAR's request is well outside of FRA's inherent authority to grant a limited de minimis exception based on the lack of benefits. Even if FRA did possess such authority, the fact that the track segments at issue receive greater-than-average benefits from PTC system implementation means that granting AAR's request to remove the 15 MGT limitation would be ill-advised. Throughout the PTC regulatory process, FRA has sought to use what little authority it has to focus PTC system implementation on those track segments that will receive the most benefit from the systems, and removing the track segments at issue would be antithetical to that aim.

FRA does recognize the potential for a higher density line not being eligible for this exemption even though it may have fewer than 100 PIH materials cars on the line in a year and even though that particular track segment may have less comparable risk than a track segment covered by the categorical de minimis exception. Consequently, while the final rule does not amend this limitation, FRA remains open to the possibility of considering some risk evaluation factors in lieu of a prescriptive train-density limitation. During PTC WG meetings, AAR suggested the number of trains traversing a track segment annually as an example of an alternative metric of train density. The flexibility available under paragraph (b)(4)(iii)(C) allows for such alternatives if the track segment is similar to those covered by the categorical de minimis exception.

8. General De Minimis Exception at § 236.1005(b)(4)(iii)(A) and (C)

AAR's Petition also requested several changes to § 236.1005(b)(4)(iii)(C), which provides that FRA will "consider" relief from the obligation to install PTC systems on track segments with annual traffic levels under 15 MGT where the risk of a release of PIH materials is "negligible." In addition to requesting the elimination of the 15-MGT limit within the categorical de minimis exception, AAR suggested eliminating the limit contained in general de

minimis exception as well. Moreover, AAR contended that it is unclear what constitutes a “negligible” risk and what discretion FRA would exercise should there be a showing of negligible risk. AAR further requested that FRA set a quantitative threshold for negligible risk, and suggests “one-in-a-million” as the criterion. AAR references a U.S. Department of Defense standard regarding standard practice for system safety, MIL-STD-882C,⁵ as the basis for such criterion, which provides a method for categorizing and assessing risk, but does not specifically explain how this standard would apply.

In response to the arguments made by AAR that the exception was vague and unworkable without quantification, the final rule replaces the general de minimis exception with a provision more consistent with FRA’s intent for the exception. The provision of paragraph (b)(4)(iii)(A) limiting the application of the de minimis exception to only those track segments carrying less than 15 MGT annually has been moved to paragraph (b)(4)(iii)(B), applying solely to the categorical de minimis exception. Paragraph (b)(4)(iii)(C) now allows for a de minimis exception for FRA approval of track segments similar but not identical to those covered by paragraph (b)(4)(iii)(B), the categorical de minimis exception. Instead of being measured against the “negligible risk” standard, a railroad requesting the exception must demonstrate to FRA that the track segment at issue poses an equivalent or lesser risk of a PTC-preventable accident than the risk posed by track segments qualifying for the categorical de minimis exception by comparing the discrepancies between the categorical standard and the proposed alternative.

In the NPRM, FRA proposed to preserve the general de minimis exception largely, only changing the exception to eliminate the 15-MGT traffic density limitation. The NPRM

⁵ MIL-STD-882C has been superseded by MIL-STD-882E, available at <https://acc.dau.mil/CommunityBrowser.aspx?id=514013>.

responded to AAR's request to quantify "negligible risk" by explaining that such quantification would not be a valuable decisional criterion, would require additional determinations on appropriate factors to quantify, and may not be possible given FRA's experience attempting to develop the residual risk test. See generally 77 FR 28285. FRA has come to view the general de minimis exception as providing flexibility for circumstances similar to but nonetheless distinct from the criteria of the categorical de minimis exception. FRA has determined that the track segments qualifying for the categorical de minimis exception pose a negligible risk, and therefore any similar track segment that can be shown to have an equivalent or lesser level of risk would necessarily also pose only a negligible risk. However, this interpretation was not readily apparent from the text of the NPRM. To address AAR's concerns of ambiguity, the general de minimis exception has been replaced with a provision providing an exception for track segments similar to those covered by the categorical de minimis exception where the track segments are shown to pose an equivalent or lesser level of risk of a PTC-preventable accident. For instance, a track segment with a higher annual MGT traffic density could qualify for the exception based on fewer PIH cars carried annually or additional operating rules providing additional protection beyond that present in the categorical de minimis exception.⁶ This comparison will necessarily be qualitative; rather than calculate the absolute risk levels involved, FRA review of such requests will entail an evaluation of the deviances from the categorical de minimis exception to ensure that the proposal maintains an equivalent level of safety. Where available, quantitative data on the proposals compared to the requirements of paragraph (b)(4)(iii)(B) will be a valuable component of that review, but not a necessary component.

⁶ Note that, because the general de minimis exception considers the totality of the circumstances of a track segment, there may exist other characteristics on a track segment otherwise as described above that elevate the risk on that track segment above a negligible level.

It bears emphasizing that the risk considered under the general de minimis exception is the risk of all PTC-preventable accidents rather than being limited solely to PTC-preventable accidents resulting in the release of PIH materials. In the January 15, 2010 PTC final rule, while FRA indicated that any de minimis exception would have to consider the four statutory PTC-preventable accident types and the level of PIH materials release, FRA also focused primarily on de minimis PIH materials risk, titling the paragraph “Lines with de minimis PIH risk.” This may have been confusing, and FRA would like to take this opportunity to provide further clarification. FRA originally used this term since the exception would only apply to freight traffic on lines where PIH materials are transported. To be clear, FRA did not intend to exclude the four statutory PTC-preventable accidents as risk elements requiring consideration in order to qualify for the exception. Accordingly, the final rule changes the regulatory language to comport with this perspective by modifying the heading of paragraph (b)(4)(iii) to eliminate the potential for confusion; the heading now reads, “Freight lines with de minimis risk not used for regularly provided intercity or commuter passenger service.”

Section 236.1006 Equipping locomotives operating in PTC system territory

AAR, in its Petition, requested that FRA permit locomotives without operational onboard PTC apparatuses to operate over PTC-equipped track segments when the movement is for freight switching operations or freight transfer train movements. AAR suggested that dispatchers hold the area of such movement clear of PTC-equipped trains through what AAR dubbed “absolute protection,” with trains lacking operational onboard PTC apparatuses limited to speeds below 30 mph and multiple concurrent train movements limited to restricted speed. The final rule largely adopts this suggestion.

In this section, FRA uses the term “freight switching service” to refer to switching service as defined by § 232.5. In turn, § 232.5 defines “train” as “one or more locomotives coupled with one or more freight cars, except during switching service.” This distinction between switching service and train movements is drawn from longstanding judicial interpretations of what constitutes a “train movement.” See, e.g., United States v. Seaboard Air Line R. R. Co., 361 U.S. 78 (1959); Louisville & Jeffersonville Bridge Co. v. United States, 249 U.S. 534 (1919); see also 66 FR 4104, 4148 (Jan 17, 2001) (defining “switching service”). FRA has previously recognized that the nature of switching service precludes the application of some safety technologies or operational practices that are applicable to train movements. See, e.g., 49 CFR part 232, subpart C (not requiring air brake tests as part of switching service, but requiring such tests for train movements of short distances). FRA has also previously recognized that Congress did not intend to sweep in yard tracks in the mandate for PTC system implementation. In the first PTC system rulemaking, FRA defined “main line” to exclude “where all trains are limited to restricted speed within a yard or terminal area or an auxiliary or industry tracks.” § 236.1003. In the final rule prescribed in that proceeding, FRA stated that “any track within a yard used exclusively by freight operations moving at restricted speed is excepted from the definition of main line.” 75 FR 2598, 2657 (Jan. 15, 2010); see also § 236.1003. Such tracks are generally considered to be other-than-main line track, and Congress’s limitation of the PTC system mandate to “main line” suggests that these tracks were not intended to be included. See also S. Rep. 110-270 (taking notice of the limited value that PTC systems offer in preventing accidents in yards or terminals). FRA also exercised its authority to define “main line” with respect to passenger trains to exclude trackage “used exclusively as yard or terminal tracks by or in support of regularly scheduled intercity or commuter passenger service.” 49 CFR

236.1019(b); see also 49 U.S.C. 20157(i)(2)(b). The result of excluding freight yard track from the PTC system implementation mandate is that many freight switching operations are excluded from the scope of the PTC system mandate, where these operations do not extend onto the main line track that connects to the yard.

However, as AAR explains in its Petition, freight switching operations frequently require some movement along main track adjacent to or within a yard, for purposes of reaching other yard tracks or obtaining necessary distance, or “headroom,” from yard tracks to make switching movements. Despite the exclusion of these other-than-main line tracks, switching service could therefore require PTC-equipped locomotives in order to make these movements on main line track. Given the statutory language suggesting that switching service is not subject to the PTC system mandate and the potential to apply operation restrictions to reduce risk to an acceptable level, FRA agrees that it would be appropriate to provide an additional exception for freight locomotives performing switching service from the requirements to be equipped with a PTC system if appropriate safeguards are implemented.

In response to the Petition, the NPRM proposed to create a new de minimis exception for yard movements. The proposed exception was limited to 10-mile movements with a maximum authorized speed of 25 mph, in order to maintain consistency with the de minimis exception of § 236.1005(b)(4) and the overall 20-mile zone of unequipped movements allowed by § 236.1006(b)(4). This exception would add to the existing definitional exclusion of operations at restricted speed within a yard, terminal, auxiliary tracks, and industry tracks from the meaning of “main line.”

AAR, in its comment, argues that because “yard movements” were not intended to be included within the scope of PTC system implementation, movements onto PTC-equipped main

track made pursuant to yard, local, industrial, or hostling service should all be excluded from the requirement to have an operational onboard PTC apparatus. In support of this position, AAR cites discussion in FRA's first final rule implementing the PTC system mandate where FRA acknowledges that yard tracks and yard movements were not intended to be covered by the PTC system mandate. However, that discussion references the existing exclusion of yard, industry, and auxiliary track from the scope of the PTC mandate, not an exception for movements made on PTC-equipped track by locomotives without operational onboard PTC apparatuses. Mindful of this distinction, FRA nonetheless recognizes the impracticability of initializing PTC systems for switching operations and transfer train movements. Similarly, AAR makes a reasonable argument that it may not be feasible for PTC systems to provide appropriate communications to each locomotive operating in a yard environment.

In the NPRM, FRA proposed a performance-based exception for yard movements, allowing the exception to apply whenever sufficient risk mitigations were applied to reduce the risk of a PTC-preventable accident to negligible levels. AAR, in its comment, expressed concern over this formulation, arguing that the negligible-risk standard is too vague if left unquantified. While FRA refrains from developing a definite method to quantify risk, to address AAR's concern the final rule provides a prescriptive set of requirements for the freight yard movement exception, with an option for performance-based alternatives if justified in a railroad's PTC Safety Plan (PTCSP).

In the NPRM, FRA proposed a speed restriction of 25 mph, consistent with the speed restriction applied to movements under the categorical de minimis exception of § 236.1005(b)(4)(iii). AAR, in its comment, argues that 30 mph is a more appropriate speed, referencing the previous en route failure language of § 236.1029. This suggestion has merit.

The categorical de minimis exception applies to operations over an unequipped track segment, whereas both the freight yard movement exception and the en route failure provision address movement without operational onboard PTC apparatuses within PTC-equipped territory. FRA agrees that the en route failure procedures are the more apt analogy. Accordingly, the speed restriction in the final rule has been increased to 30 mph.

AAR also suggested that the PTC system enforce positive stops to ensure that no trains with operative onboard PTC apparatuses are permitted to enter a zone where unequipped movements are taking place and that, when multiple PTC-inoperative movements occur in the same zone concurrently, the maximum speed be reduced to restricted speed.

While the PTC system will prevent PTC-equipped trains from entering an area where unequipped movements occur, it is unable to protect equipped trains from a PTC-unequipped yard movement that has exceeded its authority on PTC-equipped main track. In the July 9, 2013, PTC WG meeting, FRA raised the idea of taking this procedure and adding a requirement that a vacant absolute block be placed between unequipped movements and PTC-equipped trains, in order to address this concern. The railroads presented substantial arguments during the meeting that such a requirement would hamstring yard operations, given the number of PTC-equipped main tracks over which a yard movement might operate, even if the route were locked in such a way as to preclude a PTC-unequipped locomotive or train from exceeding its authority into an area where PTC-equipped trains could operate. The PTC WG discussion led to the idea of a more narrowly-tailored restriction, applying only where the risk of such an incursion exists: situations where the unequipped movement is to end on PTC-equipped main track. In such situations, if the unequipped movement exceeds its authority, it would pose a risk to PTC-equipped trains that the PTC system would be unable to protect against. The final rule mitigates

this risk by requiring that, if a movement terminates on PTC-equipped main track, the movement must operate on that final main track segment at restricted speed. While restricted speed is not a panacea against train-to-train collisions, it does reduce the risk of such collisions to an acceptable level when combined with the other operational restrictions in place in the yard movements exception.

AAR also suggested the use of what it terms “absolute protection” to mitigate the risk of train-to-train collisions. From AAR’s presentation at the July 9, 2013, PTC WG meeting, FRA understands “absolute protection” to refer to an operating practice adopted by some railroads wherein a route is lined for a movement by a dispatcher and “locked” to require explicit acknowledgement and action before any switch in the route is permitted to be lined for a conflicting movement. The final rule adopts this suggestion, requiring that the route of the unequipped movement be protected from conflicting movements by the PTC system and sufficient operating rules. The type of protection described by AAR is sufficient; however, because the discussion in the PTC WG meeting indicated that there is some degree of diversity in the implementation of the concept, the final rule is phrased generally for greater flexibility.

AAR did not discuss how to handle roadway workers or roadway working limits in the Petition or in its comments to the NPRM. Several labor organizations commented to express concern for roadway worker protection during periods where PTC-inoperative movements are occurring. To mitigate this hazard, the final rule also requires movements at restricted speed when the zone of PTC-inoperative movements includes working limits established under 49 CFR part 214. This requirement is intended to reduce the risk of an incursion into established work zone limits, one of the four statutory PTC system functions.

The NPRM also considered the exception for movements by Class II and Class III railroads under § 236.1006(b)(4) in determining an appropriate distance limitation for yard movements. While the maximum allowable distance for Class II and Class III railroads with unequipped locomotives is 20 miles, the NPRM limited the maximum distance of yard movements under the exception to 10 miles in either direction from a point of entry on to PTC-equipped main track to limit the total area of unequipped movements to 20 miles. Such a limitation would cover a 20-mile transfer train movement that originated and ended at the same location, but would not include pairs of transfer train movements of 20 miles each between two points. Allowing 20-mile movements in either direction from a point of entry on to PTC-equipped main tracks creates a 40-mile zone where potential movements without operative onboard PTC apparatuses; however, this potential also exists for Class II and Class III movements. With the operating restrictions in place, as discussed above, and considering the limitations of PTC systems for yard movements and transfer trains, FRA has concluded that allowing movements of up to 20 miles does not increase the risk of a PTC-preventable accident beyond a negligible level.

To provide some flexibility, the yard movements exception also allows railroads to propose alternatives. Because the “negligible risk” standard for evaluating these alternatives has caused great concern, the final rule provides an alternative structure. AAR proposes a quantified level of risk. However, as noted in the NPRM and discussed in more detail above, FRA has previously attempted, but was unable, to develop appropriate risk-quantification methodology with the necessary level of precision to be used for such a task. See 77 FR 28285 (May 14, 2012). Instead, the final rule uses the parameters of the freight yard movement exception discussed above as an explicit baseline; alternatives will be accepted if, in FRA’s discretion, they

are determined to be as safe as or safer than the prescriptive requirements. This method of analysis is consistent with the final rule's restatement of the general de minimis exception.

The final rule adds a new paragraph (b)(5) to exclude certain freight yard movements from the requirement to be controlled by a locomotive with an operational onboard PTC apparatus. Paragraphs (b)(5)(i) through (vi) provide the general parameters for approval of the exception. Paragraph (b)(5)(vii) provides the opportunity for railroads to propose alternatives, with the consideration of those alternatives committed to FRA's discretion. Subparagraph (viii) makes clear that this provision does not prohibit locomotives with operative onboard PTC apparatuses from making certain types of movements to assist other locomotives, such as rescuing locomotives or cars.

In addition to the new freight yard movement exception, several other changes have been made to § 236.1006. Paragraph (a) has been revised to clarify that it encompasses all operations, not just PIH operations specifically. Paragraph (b)(2) has been reserved, as discussed in the analysis of § 236.1009, below. A new paragraph (d) has been added to address the onboard PTC apparatus. The text of new paragraph (d)(1), regarding the visibility of the onboard PTC apparatus, has been moved from § 236.1029(f) to § 236.1006. Sec. 236.1006(d)(1) is a more intuitive location for the requirement. Aside from changing the phrase "PTC system's onboard apparatus" to the commonly-used phrase "onboard PTC apparatus," the content has not changed; no change in meaning exists or is intended. New paragraph (d)(2) incorporates the concept that the NPRM addressed in proposed § 236.1029(g), and responds to GE Transportation's comment. FRA views distributed onboard PTC apparatuses to be acceptable if contemplated within a railroad's PTCSP, and now provides regulatory text making that view explicit.

Section 236.1009 Procedural requirements.

The final rule moves the PTCIP reporting requirement from old paragraph (b)(2) of § 236.1006 to a new paragraph (a)(5) of § 236.1009. The purpose of this change is not merely for organizational purposes; the annual report no longer pertains solely to locomotives. The revised text requires the submission of additional information so that FRA may better fulfill its Congressional reporting obligations and otherwise fully and accurately monitor the progress of PTC system implementation. The previous language of § 236.1006(b)(2) required each railroad to report the status of achieving its goals with respect to equipping locomotives with fully-operative onboard PTC apparatuses for use on PTC-equipped track segments. However, for FRA to fulfill its statutory obligations and regulatory objectives, it requires additional implementation information concerning all components of PTC system implementation. Accordingly, in the final rule, FRA requires submission of implementation data relating to wayside interface units, communication technologies, back-end computer systems, transponders, and any other PTC system components. FRA did not receive comments on this amendment as proposed.

Section 236.1015 PTC Safety Plan content requirements and PTC System Certification.

In response to AAR's proposals for modifications to § 236.1029, FRA expressed concern that the less restrictive proposals may result in locomotives with faulty onboard PTC apparatuses being used for significant distances before being repaired or being exchanged with other locomotives equipped with fully-operative PTC apparatuses. During PTC WG meetings, AAR suggested that FRA alleviate this concern by requiring that railroads submit, as part of their PTCSP, the locations where locomotives will regularly be exchanged or repaired, as well as listing potential movements of locomotives with failed onboard PTC apparatuses that exceed 500

miles. The final rule adopts this suggestion, and a new paragraph (d)(21) has been added to this § 236.1015 to require that this information be submitted as part of each railroad's PTCSP.

Section 236.1029 PTC system use and failures.

The final rule revises old paragraph (a) of § 236.1029 by adding a heading ("In general.") and correcting a grammatical error (disagreement between subject and verb) in the last sentence of the paragraph. No change in meaning is intended.

As amended by this final rule, paragraph (b) of § 236.1029 provides a means of safely reacting to the en route failure of a PTC system. When a component of a PTC system fails en route resulting in loss of PTC functionality aboard the locomotive, the old text of § 236.1029(b) required that the train proceed at restricted speed—or at medium speed where a block signal system is in operation according to signal indication—until an absolute block is established ahead of the train; after the absolute block is established, the train may proceed at speeds between 30 mph and 79 mph, depending on the nature of the signal system in place, if any, and the nature of the train. AAR, in its Petition, assented to this procedure for each location where a PTC system is the exclusive means of delivering mandatory directives, but suggested substantial revisions to this procedure where a PTC system is not the exclusive means of delivering mandatory directives (e.g., where mandatory directives are also delivered by radio). The AAR proposal would allow trains to continue to a designated repair or exchange location identified in a railroad's PTCSP. While travelling to one of these locations, freight trains would be allowed under the proposal to continue at track speed in signaled territory, up to 40 mph for freight trains in non-signaled territory, and up to 30 mph for trains carrying cars loaded with PIH materials. The proposal also recommended a 30 mph limitation for passenger trains; Amtrak suggested that the appropriate limitation for passenger trains is 40 mph, which AAR later endorsed. The AAR

proposal broke from how the en route failure of train control systems has been handled in the past by not requiring an absolute block in advance of the train that experienced failure; as discussed above, § 236.567 requires an absolute block be established in advance of the movement. However, AAR and other participants in the PTC WG meetings made the valid point that the comparison between PTC systems and systems covered by § 236.567 is not completely apt, as PTC systems are not the method of operation in the overwhelming majority of situations, unlike cab signal systems. FRA agrees that this is a relevant difference that supports changes to the procedures for handling en route failures.

FRA is also sensitive to the concerns expressed regarding PTC system reliability and the railroads' desire to ensure that PTC system implementation does not result in dramatically reduced railroad capacity. AAR, in its comment to the NPRM, provided data suggesting that there could be substantial disruptions in service due to frequent failures of PTC systems. This data is necessarily somewhat speculative, since PTC systems remain in development. FRA expects that system reliability will improve as railroads acquire more experience with PTC systems. Reflecting the current status of PTC system development and the economic risks of substantially reduced rail capacity, the final rule provides additional flexibility for railroads. This relief is provided in several forms. First, while the final rule maintains the speed limitations present in the old rule, the final rule removes the requirement that an absolute block be established in advance of the train. Given the potential scope of PTC system failures, FRA is concerned that requiring an absolute block in advance of each train experiencing PTC system failure may exacerbate system disruptions as train dispatchers manage each of the blocks.

Old paragraph (f) of § 236.1029 has been moved to new § 236.1006(d)(1), as that section is a more intuitive location for that requirement. No change in meaning exists or is intended as part of this rearrangement. See discussion under new § 236.1006(d)(1), above.

New paragraph (g) of § 236.1029 provides three forms of temporary relief, which will be in effect from [INSERT DATE 60 DAYS FROM DATE OF PUBLICATION IN THE FEDERAL REGISTER] through the first two years following the statutory deadline for full implementation of PTC systems. First, under paragraph (g)(1), a railroad may choose in its PTCSP to operate under the requirements of new § 236.567 (the provision that applies to automatic train stop, automatic train control, and cab signal systems) in lieu of new § 236.1029. The provisions of new § 236.567 are structured similarly to those of new § 236.1029, but authorize higher maximum speeds of up to 79 mph where a functional signal system remains in place, though they require an absolute block in advance of the movement.

Second, under paragraph (g)(2) of § 236.1029, a train may proceed under either new § 236.1029 or new § 236.567 where the PTC system fails to initialize prior to the train's departure from its initial terminal. This relief will permit rail traffic to continue to flow when PTC system initialization problems occur while exchange or repair is arranged at one of the locations designated in the railroad's PTCSP.

Finally, under paragraph (g)(3) of § 236.1029, where a PTC system requires repair or maintenance that necessitates removing the system from service, a railroad may do so with notice to the appropriate FRA regional office either a week in advance for planned work or contemporaneously in the event of unplanned work. When a railroad exercises this option, the rule requires that it make reasonable efforts to schedule the removal from service for those times posing the least risk to railroad safety, generally but not necessarily when few or no trains are

expected to operate over the track segment. The railroad is also required to place the system back into service without undue delay, the same requirement that is in place for all signal and train control system failures. This provision is intended to give railroads the flexibility necessary to address system software and hardware issues quickly without unduly restricting rail capacity or creating excessive safety risks. In summary, the final rule appends new paragraph (g), which provides these temporary authorities.

In authorizing these more lenient provisions until the end of the first two years following the statutory mandate for full PTC system implementation, FRA recognizes that there may be issues that could be identified and resolved in the early days following PTC system implementation and revenue service operation. AAR argues that the complex nature of PTC systems will inevitably create frequent and unavoidable en route failures, and that these problems will not be solved in time. Based on the evidence available at this time, FRA disagrees. However, under this final rule, it will be several years before the default en route failure provisions are due to come fully into effect. Experience over these intervening years will provide more empirical data on PTC system reliability, and may be a basis for FRA to revisit this issue at a later date should circumstances warrant. To facilitate the gathering of this data, the final rule includes a new reporting requirement in new paragraph (h) relating to en route failures. Each calendar year, the rule requires railroads that have implemented PTC systems to report the number of PTC system failures, categorized by type. This report will allow FRA to be aware of reliability issues as PTC systems are implemented and put into use, and will provide useful information for potential improvements in the rule once FRA and the rail industry have more experience with this new technology. This requirement was discussed in the July 9, 2013, PTC WG meeting, and members did not express any objections.

Additionally, as noted in the NPRM, old § 236.1029 had avenues for flexibility with respect to en route failures. Old paragraph (c) allowed for deviations from the requirements of old paragraph (b) if justified in a railroad's PTCDP, PTCSP, or Order of Particular Applicability.⁷ However, this language was unnecessarily vague, and the final rule clarifies the intent of the provision. A railroad may, based on the circumstances of its operations, propose alternative en route failure procedures similar to those of paragraph (b) for approval as part of its PTCSP, RFA, or Order of Particular Applicability. The final rule revises the language of old paragraph (c) to make it consistent with similar provisions discussed earlier with respect to the de minimis exception and the yard movements exception.

AAR, in its Petition, also requested clarification concerning the failure of an onboard PTC apparatus of the train's controlling locomotive, where a second PTC-equipped locomotive exists capable of providing PTC system functionality. In the NPRM, FRA proposed to amend old § 236.1029 to indicate specifically that, when a trailing locomotive is used to maintain full PTC system functionality, the system is considered operable and therefore is not considered to have failed en route. However, as discussed above, this proposal has been adopted in new § 236.1006(d)(2) and revised to apply to PTC systems generally, rather than being limited to only instances where there is a PTC system failure.

V. Regulatory Impact and Notices

A. Executive Orders 12866 and 13563 and DOT Regulatory Policies and Procedures

This final rule has been evaluated in accordance with existing policies and procedures, and determined to be significant under Executive Order 12866, Executive Order 13563, and

⁷ Orders of Particular Applicability are one of the mechanisms by which a previously approved PTC system may receive expedited certification pursuant to § 236.1031.

DOT policies and procedures. 44 FR 11034 (Feb. 26, 1979). FRA prepared and placed in the docket a regulatory impact analysis (RIA) addressing the economic impact of this final rule.

In this final rule, FRA mainly amends the regulations implementing the 2008 statutory mandate that certain passenger and freight railroads install PTC systems governing operations on certain main line tracks. In particular, the final rule amends 49 CFR part 236 by revising an existing regulatory exception to the requirement to install a PTC system for track segments carrying freight only that present a de minimis safety risk; adding a new exception for unequipped freight trains associated with certain yard operations to operate within PTC systems; revising the provision related to en route failures of a PTC system; and adding new temporary provisions related to various failures of a PTC system. The final rule also streamlines and simplifies the application process for FRA approval of a material modification of a signal system under 49 CFR part 235 where the application would have been filed as part of a PTC system installation. In addition to making these changes related to the PTC requirements, the final rule makes technical amendments to FRA's other signal and train control regulations at 49 CFR part 236 and FRA's regulations governing highway-rail grade crossing warning systems at 49 CFR part 234.

FRA analyzed the final rule under three cases. The "base case" is FRA's best estimate of the likely impact of the final rule. To address uncertainty related to assumptions and inputs, FRA also analyzed a "high case," where the impacts are estimated as greater than FRA's best estimate, and a "low case," where the impacts are estimated as less than FRA's best estimate.

FRA's base case analyzed the impact of extending the de minimis exception to cover an additional 4,073 miles of wayside (based on comments from the Association of American Railroads (AAR)) at an estimated savings of \$50,000 per mile, as well as two sensitivity cases—

one where the estimated savings per mile was higher (\$100,000), the high case, and one where the mileage affected was lower (3,000 miles), the low case.

FRA also analyzed the benefits of adding a regulatory exception at 49 CFR 236.1006(b)(5) for locomotives not equipped with onboard PTC apparatuses that are involved in yard operations with equipped locomotives. Again, FRA faced uncertainty in estimating the number of locomotives that will be affected. For the base case, FRA estimated that 2,098 locomotives will be affected at a unit savings of \$55,000 per locomotive. FRA also analyzed two cases for sensitivity—a high case where the unit savings would be \$68,750 and a low case where 1,500 locomotives will be affected.

FRA used values from AAR comments to determine how many units of installations could be avoided by the final rule, and used unit costs from the first PTC final rule. The number of units from the AAR comments are much higher than FRA's assumptions used to analyze the NPRM, and may be high. FRA's assumptions of unit costs from that analysis of the first PTC final rule appear to be low, based on anecdotal evidence, especially reports from commuter railroads. Class I railroads may be able to avoid some of the factors that have led to higher unit costs on commuter railroads, but the unit costs used in the base case analysis of the first PTC final rule are now appearing to be low case estimates. FRA continues to use those unit cost estimates in order to allow more comprehensible comparisons between the estimated net costs of the first PTC final rule and this final rule. Were FRA to adjust the unit cost estimates for this rule, small reductions in the scope of the total PTC system implementation could render total net costs, reflecting each of the four PTC final rules issued to date, dramatically lower.

All values in the analysis are measured in 2009 dollars. FRA used values in 2009 dollars in order to continue using the same values used in analyzing the 2010 final rule amended here, so

that readers may readily evaluate the cumulative effect of the initial final rule and amendments to that rule.

For both wayside and onboard portions of the benefit, FRA included the maintenance costs saved by avoiding installation. FRA estimated the annual maintenance costs as 15 percent of the value of the installed base. The reader should note that this regulation reduces regulatory burden, so the benefits of the final rule are reduced regulatory costs, and the costs of the final rule are foregone safety benefits, a mirror image of the typical elements of a benefit cost analysis.

Table 1. Total 20-Year Discounted Benefits

	Discount Factor	
Base case	7 percent	3 percent
Applications Avoided Benefit	\$397,319	\$446,926
Wayside Installation Benefit	\$446,266,012	\$587,977,605
Onboard Installation Benefit	\$252,858,508	\$333,153,625
Total Benefit	\$699,521,839	\$921,578,156
High case		
Applications Avoided Benefit	\$397,319	\$446,926
Wayside Installation Benefit	\$892,532,024	\$1,175,955,209
Onboard Installation Benefit	\$316,073,135	\$416,442,032
Total Benefit	\$1,209,002,478	\$1,592,844,167
Low case		
Applications Avoided Benefit	\$397,319	\$446,926
Wayside Installation Benefit	\$328,700,721	\$433,079,503
Onboard Installation Benefit	\$180,785,397	\$238,193,726
Total Benefit	\$509,883,437	\$671,720,155

Totals in each respective category may not add due to rounding.

FRA also estimated the annualized benefits of the accompanying final rule.

Table 2. Total Annualized Benefits

	Discount Factor
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Base case	7 percent	3 percent
Applications Avoided Benefit	\$37,504	\$30,040
Wayside Installation Benefit	\$42,124,355	\$39,521,331
Onboard Installation Benefit	\$23,868,054	\$22,393,157
Total Benefit	\$66,029,913	\$61,944,528
High case		
Applications Avoided Benefit	\$37,504	\$30,040
Wayside Installation Benefit	\$84,248,709	\$79,042,661
Onboard Installation Benefit	\$29,835,068	\$27,991,446
Total Benefit	\$114,121,281	\$107,064,148
Low case		
Applications Avoided Benefit	\$37,504	\$30,040
Wayside Installation Benefit	\$31,027,023	\$29,109,745
Onboard Installation Benefit	\$17,064,863	\$16,010,360
Total Benefit	\$48,129,389	\$45,150,146

Totals in each respective category may not add due to rounding.

In general, the costs of allowing railroads the ability to avoid PTC implementation costs will be foregone safety benefits coupled with some reporting costs. The provisions to extend the de minimis risk exception affect track segments that are likely to have a risk of PTC-preventable accidents that is only slightly greater than similar segments equipped with PTC wayside units.

FRA analyzed those incremental costs, the only costs analyzed.

Table 3. Discounted 20-Year Total Costs

	Discount Factor	
	7 percent	3 percent
Base Case	\$6,609,680	\$9,752,784
High Case	\$6,609,680	\$9,752,784
Low Case	\$4,937,849	\$7,285,947

Table 4. Annualized 20-Year Total Cost s

	Discount Factor	
	7 percent	3 percent

Base Case	\$623,907	\$655,540
High Case	\$623,907	\$655,540
Low Case	\$466,098	\$489,730

A second de minimis exception,⁸ codified under § 236.1006(b)(5), affects whether locomotives used in freight switching operations need to be equipped with onboard PTC apparatuses in order to cross or travel along main track in yards. This newly created provision requires the railroads to maintain a negligible risk of PTC-preventable accidents. FRA believes that negligible risk is near zero, and that the marginal costs of that risk compared to PTC are practically zero.

The costs of the changes to reporting requirements (§ 236.1029(h)) are very low, and only consist of forwarding to FRA data likely already compiled for railroad management purposes.

FRA calculated the net societal benefits, both 20-year discounted totals and 20-year annualized values.

Table 5. Discounted 20-Year Total Net Benefits (Benefits Less Costs)

	Discount Factor	
	7 percent	3 percent
Base Case	\$692,912,160	\$911,825,373
High Case	\$1,202,392,799	\$1,583,091,384
Low Case	\$504,945,587	\$664,434,208

Table 6. Annualized 20-Year Total Net Benefits (Benefits Less Costs)

	Discount Factor
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⁸ Here, the term “de minimis exception” is used in the generic sense of a de minimis exception developed under case law, as described earlier in the preamble to this final rule. See Environmental Defense Fund, Inc. v. EPA, 82 F.3d 451, 466 (D.C. Cir. 1996) (inner quotations omitted); Alabama Power Co. v. Costle, 636 F.2d 323, 360-61 (D.C. Cir. 1979).

	7 percent	3 percent
Base Case	\$65,406,006	\$61,288,988
High Case	\$113,497,374	\$106,408,608
Low Case	\$47,663,291	\$44,660,415

FRA analyzed alternatives to the final rule. One alternative would be to leave the rule unchanged, the “status quo” alternative. By definition, the “status quo” alternative is treated as having no benefits or costs; however, it is the benchmark from which all other cases are analyzed.

FRA also analyzed an alternative where the de minimis exception (at § 236.1005(b)(4)(iii)) would apply without regard to line tonnage. This alternative would create greater net societal benefits, since nearly 7,000 miles could be excluded; however, because of concerns about additional risks which are not negligible, FRA does not believe that it has the authority to adopt this alternative. FRA believes that if it had the authority to adopt this alternative and if FRA adopted it, the net societal benefits would be \$1,062,422,244 over 20 years, discounted at 7 percent, or \$1,393,851,865 over 20 years, discounted at 3 percent.

In short, the final rule will create net benefits in all scenarios, with the only uncertainty being the magnitude of those benefits. At the NPRM stage, FRA requested comments on all aspects of the RIA. Such comments and related discussion are discussed in the RIA submitted to the docket.

B. Regulatory Flexibility Act and Executive Order 13272

To ensure that the impact of this rulemaking on small entities is properly considered, FRA developed this final rule in accordance with Executive Order 13272 (“Proper Consideration of Small Entities in Agency Rulemaking”) and DOT’s policies and procedures to promote

compliance with the Regulatory Flexibility Act (5 U.S.C. 601 et seq.). The Regulatory Flexibility Act requires an agency to review regulations to assess their impact on small entities. The meaning of “small entity” for purposes of the Regulatory Flexibility Act is discussed below. An agency must conduct a regulatory flexibility analysis unless it determines and certifies that a rule is not expected to have a significant economic impact on a substantial number of small entities.

This final rule is summarized under the immediately previous section of the preamble as well as earlier in the preamble. FRA is certifying that this final rule will result in “no significant economic impact on a substantial number of small entities.” The following section explains the reasons for this certification.

1. Description of the Small Entities Subject to this Final Rule and Impacts of the Final Rule on those Entities

The “universe” of the entities under consideration here includes only those small entities that can reasonably be expected to be directly affected by the provisions of this final rule. In this case, FRA concludes that the “universe” will be five Class III freight railroads that operate on rail lines that are currently required to have PTC systems installed. Such lines are owned by railroads not considered to be small. No small passenger railroads will be affected by the final rule.

The U.S. Small Business Administration (SBA) stipulates in its “Size Standards” that the largest that a for-profit railroad business firm may be, and still be classified as a “small entity,” is 1,500 employees for “Line Haul Operating Railroads” and 500 employees for “Switching and Terminal Establishments.” “Small entity” is defined in the Regulatory Flexibility Act as a small business that is independently owned and operated, and is not dominant in its field of operation.

Additionally, 5 U.S.C. 601(5) defines “small entity” as including governments of cities, counties, towns, townships, villages, school districts, or special districts with populations less than 50,000.

Federal agencies may adopt their own size standards for small entities in consultation with SBA and in conjunction with public comment. Pursuant to that authority, FRA has published a final policy that formally establishes “small entities” for purposes of the Regulatory Flexibility Act as including freight railroads that meet the line haulage revenue requirements of a Class III railroad and passenger railroads that serve populations less than 50,000.⁹ The revenue requirements are currently \$20 million or less in annual operating revenue. The \$20 million limit (which is adjusted by applying the railroad revenue deflator adjustment)¹⁰ is based on the Surface Transportation Board’s (STB) threshold for a Class III railroad carrier. FRA is using the STB’s threshold in its definition of “small entities” that are freight railroads for this rule.

This final rule adds new § 235.6, which allows specified changes within existing signal or train control systems to be made without the necessity of filing an application for approval with FRA’s Associate Administrator. The amendment provides each railroad a simplified process to obtain approval to modify existing signal systems directly associated with PTC system implementation. In the absence of this change in the accompanying rule, a railroad would have to submit the detailed application required for approval under § 235.10, along with the additional information required by § 235.12, every time it modified any of the underlying signal systems as described in § 235.5, even if those changes were part of the PTCIP. The entire application would then be subject to the filing procedure described in § 235.13, and FRA would publish under the requirements of § 235.14 and resolve protests under the provisions of § 235.20. The process is

⁹ See 68 FR 24891 (May 9, 2003); 49 CFR part 209, app. C.

¹⁰ For further information on the calculation of the specific dollar limit, please see 49 CFR 1201.1-1.

burdensome for both the railroad and FRA, where FRA has already reviewed significant elements of what would be the application, as part of the PTCIP. FRA believes this could create a benefit for any of the five small railroads affected by the final rule, but that the likelihood of such filings is very low for the small railroads affected. If the small railroads do file, the filing is likely to be for a very small portion of the railroad affected, and the benefits would be very small.

FRA believes that portions of the rule revising the requirements at 49 CFR 236.567 regarding en route failures are technical in nature, and do not create any economic impacts on any regulated entities, large or small.

The changes to the de minimis provisions in the final rule (i.e., § 236.1005(b)(4)(iii)) will impact Class III freight railroads that operate on lines of other railroads currently required to have PTC systems installed. To the extent that such host railroads receive relief from such a requirement along certain lines, Class III freight railroads that operate over those lines will not have to equip their locomotives with PTC system components. FRA believes that small railroads operating over the affected lines are already allowed to avoid equipping locomotives under existing § 236.1006(b)(4), or are otherwise equipping their locomotives to operate over other track segments equipped with PTC systems. Further, some Class III freight railroads host passenger operations, but FRA does not believe any of those Class III freight railroads have any switching operations that would be affected by the final rule (i.e., the freight yard movements exception at § 236.1006(b)(5)). To the extent that any Class III freight railroads are affected in circumstances of which FRA is unaware, the effect would be a benefit, in that the Class III freight railroads would be able to avoid installing PTC systems on some locomotives. FRA requested comment on whether any other small entities would be affected, and if such small

entities would be affected what the impacts on them would be, whether those impacts would be significant and whether the number of small railroads affected is substantial, but received no comments on the topic. FRA believes that no small entities will be affected by changes to the de minimis provisions and the freight locomotive yard movements exception, and that therefore the number of small entities affected is not substantial, and that the impact on them is not significant.

These five small freight railroads are required to file a PTCIP by the existing PTC regulations and will be affected by the final rule's changes in the reporting requirements in § 236.1009. The reporting requirements will require the railroad to report its progress in installing PTC, in April 2013, 2014, and 2015, in order to comply with the statutory deadlines. FRA believes that all railroads implementing PTC will track this information and compile the information as part of internal management activities at least as frequently for what is likely to be a relatively large capital project on every affected railroad. FRA believes the incremental reporting regulatory burden is negligible, on the order of forwarding to FRA an email already generated within a railroad. FRA believes this is not a significant burden upon the railroads affected.

Certain other provisions (e.g., § 236.15 (regarding timetable instructions) and § 236.1015(d)(21) (lists related to locomotives with failed onboard PTC apparatus, etc.) are minor and should not create any economic impacts on any regulated entities, large or small other than paperwork, which is accounted for under V.C. of the preamble, below; FRA believes these are not a significant burden on these five small railroads.

FRA believes that the portions of the rule revising the requirements at § 234.207 (regarding adjustment, etc. of essential components), § 234.213 (regarding grounds), § 236.2 (regarding grounds), and § 236.567 (regarding en route failures) are technical in nature, and do

not create any economic impacts on any regulated entities, large or small. Likewise, the revised and new relief provisions at § 236.1029(b), (c), and (g) (which are considered as clarifying the intent of the original PTC final rule) are not expected to create economic impacts on any regulated entities, large or small.

For the reasons summarized above, FRA believes the reporting requirements will not have a significant impact on a substantial number of small entities.

2. Certification

Pursuant to the Regulatory Flexibility Act, 5 U.S.C. 605(b), the FRA Administrator certifies that this rule will not have a significant economic impact on a substantial number of small entities.

C. Executive Order 13175

FRA analyzed this rule in accordance with the principles and criteria contained in Executive Order 13175 (“Consultation and Coordination with Indian Tribal Governments”).

Because this rule does not significantly or uniquely affect tribes and does not impose substantial and direct compliance costs on Indian tribal governments, the funding and consultation requirements of Executive Order 13175 do not apply, and a tribal summary impact statement is not required.

D. Paperwork Reduction Act

The information collection requirements in this final rule are being submitted for approval to the Office of Management and Budget (OMB) under the Paperwork Reduction Act of 1995, 44 U.S.C. 3501 *et seq.* The sections that contain the both the new and current information collection requirements and the estimated time to fulfill each requirement are as follows:

CFR Section	Respondent Universe	Total Annual Responses	Average Time per Response	Total Annual Burden Hours
234.275 - Processor-Based Systems - Deviations from Product Safety Plan (PSP) - Letters	20 Railroads	25 letters	4 hours	100 hours
235.6 – Requests to FRA Regional Administrators for Modification of a Signal System Related to PTC Implementation – Expedited Application (New Requirement)	38 Railroads	500 application requests	5 hours	2,500 hours
--PTC Related Modification Request – Expedited Application -- Copies to Railroad Union(s) (New Requirement)	38 Railroads	500 application request copies	30 minutes	250 hours
- Railroad Rescindment of Expedited Application – Letters(New Requirement)	38 Railroads	25 letters	6 hours	150 hours
-- RR Submission of (Revised) Application completed under Sections 235.5 and 235.9-235.20 (New Requirement)	38 Railroads	13 submission/ applications	5 hours	65 hours
- Revised Application Copies to Railroad Union(s) (New Requirement)	38 Railroads	13 copies	30 minutes	7 hours
236.15 – Timetable Instructions -- Designation of Positive Train Control (PTC) Territory in Instructions (Revised Requirement)	38 Railroads	13 timetable Instructions	1 hour	13 hours
236.18 - Software Mgmt Control Plan - Updates to Software Mgmt. Control Plan	184 Railroads 90 Railroads	184 plans 20 updates	2,150 hours 1.50 hours	395,600 hours 30 hours
236.905 - Updates to RSPP - Response to Request For Additional Info. - Request for FRA Approval of RSPP Modification	78 Railroads 78 Railroads 78 Railroads	6 plans 1 updated doc. 1 request/ modified RSPP	135 hours 400 hours 400 hours	810 hours 400 hours 400 hours
236.907 - Product Safety Plan (PSP) – Dev.	5 Railroads	5 plans	6,400 hours	32,000 hours
236.909 - Minimum Performance Standard - Petitions For Review and Approval - Supporting Sensitivity Analysis	5 Railroads 5 Railroads	2 petitions/PSP 5 analyses	19,200 hours 160 hours	38,400 hours 800 hours

236.913 - Notification/Submission to FRA of Joint Product Safety Plan (PSP)	6 Railroads	1 joint plan	25,600 hours	25,600 hours
- Petitions For Approval/Informational Filings	6 Railroads	6 petitions	1,928 hours	11,568 hours
- Responses to FRA Request For Further Info. After Informational Filing	6 Railroads	2 documents	800 hours	1,600 hours
- Responses to FRA Request For Further Info. After Agency Receipt of Notice of Product Development	6 Railroads	6 documents	16 hours	96 hours
- Consultations	6 Railroads	6 consults	120 hours	720 hours
- Petitions for Final Approval	6 Railroads	6 petitions	16 hours	96 hours
- Comments to FRA by Interested Parties	Public/RRs	7 comments	240 hours	1,680 hours
- Third Party Assessments of PSP	6 Railroads	1 assessment	104,000 hours	104,000 hours
- Amendments to PSP	6 Railroads	15 amendments	160 hours	2,400 hours
- Field Testing of Product – Info. Filings	6 Railroads	6 documents	3,200 hours	19,200 hours
236.917 - Retention of Records	6 Railroads	3 documents/ records	160,000 hrs.; 160,000 hrs.; 40,000 hrs.	360,000 hours
- Results of tests/inspections specified in PSP	6 Railroads	1 report	104 hours	104 hours
236.919 - Operations & Maintenance Man.	6 Railroads	6 updated docs.	40 hours	240 hours
- Updates to O & M Manual	6 Railroads	6 plans	53,335 hours	320,010 hours
- Plans For Proper Maintenance, Repair, Inspection of Safety-Critical Products	6 Railroads	6 revisions	6,440 hours	38,640 hours
- Hardware/Software/Firmware Revisions	6 Railroads			
236.921 - Training Programs: Development	6 Railroads	6 Tr. Programs	400 hours	2,400 hours
- Training of Signalmen & Dispatchers	6 Railroads	300 signalmen; 20 dispatchers	40 hours; 20 hours	12,400 hours
236.923 - Task Analysis/Basic Requirements: Necessary Documents	6 railroads	6 documents	720 hours	4,320 hours
- Records	6 railroads	350 records	10 minutes	58 hours
SUBPART I – NEW REQUIREMENTS				
-236.1001 – RR Development of More Stringent Rules Re: PTC Performance Stds.	38 railroads	3 rules	80 hours	240 hours
- 236.1005 - Requirements for PTC Systems				
-- RR Request for Relief to Install PTC System	38 railroads	27 relief requests	64 hours	1,728 hours
- Temporary Rerouting: Emergency Requests	38 railroads	47 requests	8 hours	376 hours
- Written/Telephonic Notification to FRA Regional Administrator	38 railroads	47 notifications	2 hours	94 hours
- Temporary Rerouting Requests Due to Track Maintenance	38 railroads	720 requests	8 hours	5,760 hours
- Temporary Rerouting Requests That Exceed 30 Days	38 railroads	361 requests	8 hours	2,888 hours
- 236.1006 - Requirements for Equipping Locomotives Operating in PTC Territory				
-- PTC Progress Reports	38 railroads	35 reports	16 hours	560 hours

- 236.1007 - Additional Requirements for High Speed Service	38 railroads	3 documents	3,200 hours	9,600 hours
- Required HSR-125 Documents with approved PTCSP	38 railroads	2 requests	8,000 hours	16,000 hours
- Requests to Use Foreign Service Data	38 railroads	3 documents	3,200 hours	9,600 hours
- PTC Railroads Conducting Operations at More than 150 MPH with HSR-125 Documents	38 railroads	1 request	1,000 hours	1,000 hours
- Requests for PTC Waiver	38 railroads			
236.1009-Procedural Requirements				
- Host Railroads Filing PTCIP or Request for Amendment (RFAs)	38 Railroads	1 PCTIP; 20 RFAs	535 hours; 320 hours	6,935 hours
- Jointly Submitted PTCIPs	38 Railroads	5 PTCIPs	267 hours	1,335 hours
- Notification of Failure to File Joint PTCIP	38 Railroads	1 notification	32 hours	32 hours
- Comprehensive List of Issues Causing Non-Agreement	38 Railroads	1 list	80 hours	80 hours
- Conferences to Develop Mutually Acceptable PCTIP	38 Railroads	1 conf. calls	60 minutes	1 hour
- Annual Implementation Status Report	38 Railroads	38 reports + 38 reports	8 hours + 60 hours	2,584 hours
- Type Approval	38 Railroads	2 Type Appr.	8 hours	16 hours
- PTC Development Plans Requesting Type Approval	38 Railroads	20 Ltr. + 20 App; 2 Plans	8 hrs/1600 hrs.; 6,400 hours	44,960 hours
- Notice of Product Intent w/PTCIPs (IPs)	38 Railroads	3 NPI; 1 IP	1,070 + 535 hrs	3,745 hours
- PTCIPs with PTCIPs (DPs + IPs)	38 Railroads	1 DP	2,135 hours	2,135 hours
- Updated PTCIPs w/PTCDPs (IPs + DPs)	38 Railroads	1 IP; 1 DP	535 + 2,135 hrs	2,670 hours
- Disapproved/Resubmitted PTCIPs/NPIs	38 Railroads	1 IP + 1 NPI	135 + 270 hrs.	405 hours
- Revoked Approvals – Provisional IP/DP	38 Railroads	1 IP + 1 DP	135 + 535 hrs.	670 hours
- PTC IPs/PTCDPs Still Needing Rework	38 Railroads	1 IP + 1 DP	135 + 535 hrs.	670 hours
- PTCIP/PTCDP/PTCSP Plan Contents – Documents Translated into English	38 Railroads	1 document	8,000 hours	8,000 hours
- Requests for Confidentiality	38 Railroads	38 ltrs; 38 docs	8 hrs.; 800 hrs.	30,704 hours
- Field Test Plans/Independent Assessments - Req. by FRA	38 Railroads	190 field tests; 2 assessments	800 hours	153,600 hours
- FRA Access: Interviews with PTC Wrkrs.	38 Railroads	76 interviews	30 minutes	38 hours
- FRA Requests for Further Information	38 Railroads	8 documents	400 hours	3,200 hours
236.1011-PTCIP Requirements – Comment	7 Interested Groups	1 rev.; 40 com	143 + 8 hrs.	463 hours
236.1015 - PTCSP Content Requirements & PTC System Certification				
- Non-Vital Overlay	38 Railroads	3 PTCSPs	16,000 hours	48,000 hours
- Vital Overlay	38 Railroads	28 PTCSPs	22,400 hours	627,200 hours
- Stand Alone	38 Railroads	1 PTCSP	32,000 hours	32,000 hours
- Mixed Systems – Conference with FRA regarding Case/Analysis	38 Railroads	3 conferences	32 hours	96 hours
- Mixed Sys. PTCSPs (incl. safety case)	38 Railroads	1 PTCSP	28,800 hours	28,800 hours
- FRA Request for Additional PTCSP Data	38 Railroads	19 documents	3,200 hours	60,800 hours
- PTCSPs Applying to Replace Existing Certified PTC Systems	38 Railroads	19 PTCSPs	3,200 hours	60,800 hours
- Non-Quantitative Risk Assessments Supplied to FRA	38 Railroads	19 assessment	3,200 hours	60,800 hours

236.1017 – PTCSP Supported by Independent Third Party Assessment - Written Requests to FRA to Confirm Entity Independence - Provision of Additional Information After FRA Request - Independent Third Party Assessment: Waiver Requests - RR Request for FRA to Accept Foreign Railroad Regulator Certified Info.	38 Railroads	1 assessment	8,000 hours	8,000 hours
	38 Railroads	1 request	8 hours	8 hours
	38 Railroads	1 document	160 hours	160 hours
	38 Railroads	1 request	160 hours	160 hours
	38 Railroads	1 request	32 hours	32 hours
236.1019 - Main Line Track Exceptions - Submission of Main Line Track Exclusion Addendums (MTEAs) - Passenger Terminal Exception – MTEAs - Limited Operation Exception – Risk Mit. - Ltd. Exception – Collision Hazard Anal. - Temporal Separation Procedures	38 Railroads	36 MTEAs	160 hours	5,760 hours
	38 Railroads	19 MTEAs	160 hours	3,040 hours
	38 Railroads	19 plans	160 hours	3,040 hours
	38 Railroads	12 analyses	1,600 hours	19,200 hours
	38 Railroads	11 procedures	160 hours	1,760 hours
236.1021 - Discontinuances, Material Modifications, Amendments - Requests to Amend (RFA) PTCIP, PTCDP or PTCSP - Review and Public Comment on RFA	38 Railroads	19 RFAs	160 hours	3,040 hours
	7 Interested Groups	7 reviews + 20 comments	3 hours; 16 hours	341 hours
236.1023 - PTC Product Vendor Lists - RR Procedures Upon Notification of PTC System Safety-Critical Upgrades, Rev., Etc -- RR Notifications of PTC Safety Hazards -- RR Notification Updates - Manufacturer's Report of Investigation of PTC Defect - PTC Supplier Reports of Safety Relevant Failures or Defective Conditions	38 Railroads	38 lists	8 hours	304 hours
	38 Railroads	38 procedures	16 hours	608 hours
	38 Railroads	142 notification	16 hours	2,272 hours
	38 Railroads	142 updates	16 hours	2,272 hours
	5 System Suppliers	5 reports	400 hours	2,000 hours
236.1029 – Report of On-Board Lead Locomotive PTC Device Failure - Submission by RR of Order of Particular Availability with an Alternative System Failure Procedure to FRA (New Requirement) - Notice to FRA at least 7 days in Advance of Planned Disabling of PTC System Service and Contemporaneous Notice for Unplanned Disabling of PTC System Service (New Requirement) - Annual Report of PTC System Failures (New Requirement)	38 Railroads	836 reports	96 hours	80,256 hours
	38 Railroads	1 Order	3,200 hours	3,200 hours
	38 Railroads	76 planned notices + 114 unplanned notices	10 hours	1,900 hours
	38 Railroads	38 reports	20 hours	760 hours
236.1031- Previously Approved PTC Systems - Request for Expedited Certification (REC) for PTC System - Requests for Grandfathering on PTCSPs	38 Railroads	3 REC Letters	160 hours	480 hours
	38 Railroads	3 requests	1,600 hours	4,800 hours
236.1035- Field Testing Requirements - Relief Requests from Regulations Necessary to Support Field Testing	38 Railroads	190 field test plans	800 hours	152,000 hours
	38 Railroads	38 requests	320 hours	12,160 hours

236.1037 - Records Retention - Results of Tests in PTCSP and PTCDP - PTC Service Contractors Training Records - Reports of Safety Relevant Hazards Exceeding Those in PTCSP and PTCDP - Final Report of Resolution of Inconsistency	38 Railroads 38 Railroads 38 Railroads 38 Railroads	836 records 18,240 records 4 reports 4 final reports	4 hours 30 minutes 8 hours 160 hours	3,344 hours 9,120 hours 32 hours 640 hours
- 236.1039 - Operations & Maintenance Manual (OMM): Development - Positive Identification of Safety-critical components - Designated RR Officers in OMM. regarding PTC issues	38 Railroads 38 Railroads 38 railroads	38 manuals 114,000 i.d. components 76 designations	250 hours 1 hour 2 hours	9,500 hours 114,000 hours 152 hours
-236.1041 – PTC Training Programs	38 Railroads	38 programs	400 hours	15,200 hours
- 236.1043 - Task Analysis/Basic Requirements: Training Evaluations - Training Records	38 Railroads 38 Railroads	38 evaluations 560 records	720 hours 10 minutes	27,360 hours 93 hours
- 236.1045 - Training Specific to Office Control Personnel	38 Railroads	32 trained employees	20 hours	640 hours
- 236.1047 - Training Specific to Loc. Engineers & Other Operating Personnel - PTC Conductor Training	38 Railroads	7,600 trained conductors	3 hours	22,800 hours

All estimates include the time for reviewing instructions; searching existing data sources; gathering or maintaining the needed data; and reviewing the information. Pursuant to 44 U.S.C. 3506(c)(2)(B), FRA solicits comments concerning: whether these information collection requirements are necessary for the proper performance of the functions of FRA, including whether the information has practical utility; the accuracy of FRA's estimates of the burden of the information collection requirements; the quality, utility, and clarity of the information to be collected; and whether the burden of collection of information on those who are to respond, including through the use of automated collection techniques or other forms of information technology, may be minimized. For information or a copy of the paperwork package submitted to OMB, contact Mr. Robert Brogan, Information Clearance Officer, Office of Safety, at 202-493-6292, or Ms. Kimberly Toone, Office of Information Technology, at 202-493-6132, or via e-mail at the following addresses: Robert.Brogan@dot.gov; Kimberly.Toone@dot.gov.

Organizations and individuals desiring to submit comments on the collection of information requirements should direct them to the Office of Management and Budget, Office of Information and Regulatory Affairs, Washington, D. C. 20503, Attention: FRA Desk Officer. Comments may also be sent via e-mail to the Office of Management and Budget at the following address: oir_submissions@omb.eop.gov.

OMB is required to make a decision concerning the collection of information requirements contained in this final rule responding to petitions for reconsideration between 30 and 60 days after publication of this document in the Federal Register. Therefore, a comment to OMB is best assured of having its full effect if OMB receives it within 30 days of publication.

FRA cannot impose a penalty on persons for violating information collection requirements which do not display a current OMB control number, if required. FRA intends to obtain current OMB control numbers for any new information collection requirements resulting from this rulemaking action prior to the effective date of this final rule. The OMB control number, when assigned, will be announced by separate notice in the Federal Register.

E. Federalism Implications

Executive Order 13132, “Federalism” (64 FR 43255, Aug. 10, 1999), requires FRA to develop an accountable process to ensure “meaningful and timely input by State and local officials in the development of regulatory policies that have federalism implications.” “Policies that have federalism implications” are defined in the Executive Order to include regulations that have “substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.” Under Executive Order 13132, the agency may not issue a regulation

with federalism implications that imposes substantial direct compliance costs and that is not required by statute, unless the Federal government provides the funds necessary to pay the direct compliance costs incurred by State and local governments or the agency consults with State and local government officials early in the process of developing the regulation. Where a regulation has federalism implications and preempts State law, the agency seeks to consult with State and local officials in the process of developing the regulation.

FRA has analyzed this rule in accordance with the principles and criteria contained in Executive Order 13132. If adopted, this rule would not have a substantial direct effect on the States, on the relationship between the Federal government and the States, or on the distribution of power and responsibilities among the various levels of government. FRA has also determined that this rule would not impose substantial direct compliance costs on State and local governments. Therefore, the consultation and funding requirements of Executive Order 13132 do not apply.

However, this rule could have preemptive effect by operation of law under 49 U.S.C. 20106 (Section 20106). Section 20106 provides that States may not adopt or continue in effect any law, regulation, or order related to railroad safety or security that covers the subject matter of a regulation prescribed or order issued by the Secretary of Transportation (with respect to railroad safety matters) or the Secretary of Homeland Security (with respect to railroad security matters), except when the State law, regulation, or order qualifies under the “local safety or security hazard” exception to Section 20106.

In sum, FRA has analyzed this rule in accordance with the principles and criteria contained in Executive Order 13132. As explained above, FRA has determined that this rule has no federalism implications, other than the possible preemption of State laws under Section

20106. Accordingly, FRA has determined that preparation of a federalism summary impact statement for this rule is not required.

F. Environmental Impact

FRA has evaluated this rule in accordance with its “Procedures for Considering Environmental Impacts” (FRA’s Procedures) (64 FR 28545, May 26, 1999) as required by the National Environmental Policy Act (42 U.S.C. 4321 et seq.), other environmental statutes, Executive Orders, and related regulatory requirements. FRA has determined that this action is not a major FRA action (requiring the preparation of an environmental impact statement or environmental assessment) because it is categorically excluded from detailed environmental review pursuant to section 4(c)(20) of FRA’s Procedures. 64 FR 28547, May 26, 1999. In accordance with section 4(c) and (e) of FRA’s Procedures, the agency has further concluded that no extraordinary circumstances exist with respect to this final rule that might trigger the need for a more detailed environmental review. As a result, FRA finds that this rule is not a major Federal action significantly affecting the quality of the human environment.

G. Unfunded Mandates Reform Act of 1995

Pursuant to Section 201 of the Unfunded Mandates Reform Act of 1995 (Public Law 104-4, 2 U.S.C. 1531), each Federal agency “shall, unless otherwise prohibited by law, assess the effects of Federal regulatory actions on State, local, and tribal governments, and the private sector (other than to the extent that such regulations incorporate requirements specifically set forth in law).” Section 202 of the Act (2 U.S.C. 1532) further requires that “before promulgating any general notice of proposed rulemaking that is likely to result in the promulgation of any rule that includes any Federal mandate that may result in the expenditure by State, local, and tribal governments, in the aggregate, or by the private sector, of \$100,000,000 or more (adjusted

annually for inflation) [currently \$140,800,000] in any 1 year, and before promulgating any final rule for which a general notice of proposed rulemaking was published, the agency shall prepare a written statement” detailing the effect on State, local, and tribal governments and the private sector. FRA is publishing this final rule to provide additional flexibility in standards for the development, testing, implementation, and use of PTC systems for railroads mandated by RSIA to implement PTC systems. The RIA provides a detailed analysis of the costs and benefits of the final rule. This analysis is the basis for determining that this rule will not result in total expenditures by State, local, or tribal governments, in the aggregate, or by the private sector of \$140,800,000 or more in any one year. The costs associated with this final rule are reduced accident reduction from an existing rule.

H. Energy Impact

Executive Order 13211 requires Federal agencies to prepare a Statement of Energy Effects for any “significant energy action.” See 66 FR 28355 (May 22, 2001). Under the Executive Order a “significant energy action” is defined as any action by an agency that promulgates or is expected to lead to the promulgation of a final rule or regulation, including notices of inquiry, advance notices of proposed rulemaking, and notices of proposed rulemaking: (1)(i) that is a significant regulatory action under Executive Order 12866 or any successor order, and (ii) is likely to have a significant adverse effect on the supply, distribution, or use of energy; or (2) that is designated by the Administrator of the Office of Information and Regulatory Affairs as a significant energy action. FRA has evaluated this rule in accordance with Executive Order 13211. FRA has determined that this rule is not likely to have a significant adverse effect on the supply, distribution, or use of energy. Consequently, FRA has determined that this final rule is not a “significant energy action” within the meaning of the Executive Order.

I. Privacy Act

FRA wishes to inform all interested parties that anyone is able to search the electronic form of any written communications and comments received into any agency docket by the name of the individual submitting the document (or signing the document, if submitted on behalf of an association, business, labor union, etc.). Interested parties may also review DOT's complete Privacy Act Statement in the Federal Register published on April 11, 2000 (65 FR 19477) or visit <http://www.regulations.gov/#!privacyNotice>.

List of Subjects

49 CFR Part 234

Highway safety, Highway-rail grade crossings, Penalties, Railroad safety, Reporting and recordkeeping requirements.

49 CFR Part 235

Administrative practice and procedure, Penalties, Railroad safety, Reporting and recordkeeping requirements.

49 CFR Part 236

Penalties, Positive Train Control, Railroad safety, Reporting and recordkeeping requirements.

The Rule

In consideration of the foregoing, FRA amends chapter II, subtitle B of title 49, Code of Federal Regulations as follows:

PART 234—[AMENDED]

1. The authority citation for part 234 continues to read as follows:

Authority: 49 U.S.C. 20103, 20107, 20152, 21301, 21304, 21311, 22501 note; Pub. L. 110-432, Div. A, Secs. 202, 205; 28 U.S.C. 2461, note; and 49 CFR 1.89.

2. Revise § 234.207 to read as follows:

§ 234.207 Adjustment, repair, or replacement of component.

(a) When any essential component of a highway-rail grade crossing warning system fails to perform its intended function, including but not limited to failures resulting in an activation failure, partial activation, or false activation, the cause shall be determined and the faulty component adjusted, repaired, or replaced without undue delay.

(b) If the failure of an essential component results in an activation failure, partial activation, or false activation, as defined in § 234.5, a railroad shall take appropriate action under § 234.105, Activation failure, § 234.106, Partial activation, or § 234.107, False activation, until adjustment, repair, or replacement of the essential component is completed.

3. Revise § 234.213 to read as follows:

§ 234.213 Grounds.

(a) General. Except as provided in paragraph (b) of this section, each circuit that affects the proper functioning of a highway-rail grade crossing warning system shall be kept free of any ground or combination of grounds that will permit a current flow of 75 percent or more of the value necessary to retain a permissive state of a safety appliance.

(b) Exception. Paragraph (a) of this section does not apply to the following:

- (1) Circuits that include track rail;
- (2) Alternating current power distribution circuits that are grounded in the interest of safety;
- (3) Circuitry internal to microprocessor-based appliances;

- (4) Circuitry internal to semiconductor-based memory; and
- (5) Common return wires of grounded common return single break circuits.

PART 235—[AMENDED]

- 4. The authority citation for part 235 is revised to read as follows:

Authority: 49 U.S.C. 20103, 20107; 28 U.S.C. 2461, note; and 49 CFR 1.89.

- 5. Add § 235.6 to read as follows:

§ 235.6 Expedited application for approval of certain changes.

(a) Qualifying changes. A railroad may seek approval under this section, instead of under §§ 235.5 and 235.9-235.20 of this chapter for the following changes:

(1) Modification of a signal system consisting of the installation, relocation, or removal of one or more signals, interlocked switches, derails, movable-point frogs, or electric locks in an existing system directly associated with the implementation of positive train control pursuant to subpart I of part 236 of this chapter, if the modification does not include the discontinuance or decrease of limits of a signal or train control system.

(2) [Reserved]

(b) Procedure of expedited application. (1) To seek approval under this section, a railroad shall provide a notice and profile plan for the proposed modification to the FRA Regional Administrator having jurisdiction over the affected territory.

(2) Simultaneously with its filing with the FRA Regional Administrator, the railroad shall serve, either by hard copy or electronically, a copy of the notice and profile plan to representatives of employees responsible for maintenance, inspection, and testing of the affected signal system under part 236 of this chapter, as well as representatives of employees responsible for operating trains or locomotives in the affected territory.

(3) The railroad shall include in its submission to the FRA Regional Administrator a statement affirming that the railroad has complied with the requirements of paragraph (b)(2) of this section, together with a list of the names and addresses of the persons served.

(4) In response to receipt of a notice and profile plan under paragraph (b)(1) of this section, the Regional Administrator shall in writing deny or approve, in full or in part, and with or without conditions, the request for signal system modification. For any portion of the request that is denied, the Regional Administrator shall refer the issue to the Railroad Safety Board as an application to modify the signal system.

(5) A railroad may rescind its application to the Regional Administrator and submit an application under §§ 235.5 and 235.9–235.20 of this chapter at any time prior to the decision of the Regional Administrator.

(c) The resultant arrangement of any change under this section shall comply with part 236 of this chapter.

PART 236—[AMENDED]

6. The authority citation for part 236 is revised to read as follows:

Authority: 49 U.S.C. 20102-20103, 20107, 20133, 20141, 20157, 20301-20303, 20306, 20701-20703, 21301-21302, 21304; 28 U.S.C. 2461, note; and 49 CFR 1.89.

§ 236.0 [Amended]

7. In § 236.0, remove paragraph (i).

8. Revise § 236.2 to read as follows:

§ 236.2 Grounds.

(a) General. Except as provided in paragraph (b) of this section, each circuit, the functioning of which affects the safety of train operations, shall be kept free of any ground or

combination of grounds having a current flow of 75 percent or more of the value necessary to retain a permissive state of a safety appliance.

(b) Exception. Paragraph (a) of this section does not apply to the following:

(1) Circuits that include any track rail;

(2) The common return wires of single-wire, single-break, and signal control circuits using a grounded common;

(3) Circuitry internal to microprocessor-based appliances;

(4) Circuitry internal to semiconductor-based memory; or

(5) Alternating current power distribution circuits that are grounded in the interest of safety.

9. Revise § 236.15 to read as follows:

§ 236.15 Timetable instructions.

Automatic block, traffic control, train stop, train control, cab signal, and positive train control territory shall be designated in timetable instructions.

10. Revise § 236.567 to read as follows:

§ 236.567 Restrictions imposed when device fails and/or is cut out en route.

(a) Except as provided in subparts H or I of this part, where an automatic train stop, train control, or cab signal device fails and/or is cut out en route, the train on which the device is inoperative may proceed to the next available point of communication where report must be made to a designated officer, at speeds not to exceed the following:

(1) If no block signal system is in operation, restricted speed; or

(2) If a block signal system is in operation, according to signal indication but not to exceed 40 miles per hour.

(b) Upon completion and communication of the report required by paragraph (a) of this section, a train may continue to a point where an absolute block can be established in advance of the train at speeds not to exceed the following:

- (1) If no block signal system is in operation, restricted speed; or
- (2) If a block signal system is in operation, according to signal indication but not to exceed 40 miles per hour.

(c) Upon reaching the location where an absolute block has been established in advance of the train, as referenced in paragraph (b) of this section, the train may proceed at speeds not to exceed the following:

- (1) If no block signal system is in operation and the train is a passenger train, 59 miles per hour;
- (2) If no block signal system is in operation and the train is a freight train, 49 miles per hour; and
- (3) If a block signal system is in operation, 79 miles per hour.

§ 236.1003 [Amended]

11. In § 236.1003, remove the words “*PIH Materials*” and add, in their place, “*PIH materials*”.

12. In § 236.1005, revise the header row in the table in paragraph (a)(1)(i), revise the heading of paragraph (b)(4)(iii), and revise paragraphs (b)(4)(iii)(A), (b)(4)(iii)(B), and (b)(4)(iii)(C) to read as follows:

§ 236.1005 Requirements for Positive Train Control systems.

- | | | | |
|-----|---|---|---|
| (a) | * | * | * |
| (1) | * | * | * |

(i) * * *

Crossing type	Max. speed	Protection required
---------------	------------	---------------------

* * * *

(b) * * *

(4) * * *

(iii) Freight lines with de minimis risk not used for regularly provided intercity or commuter rail passenger service. (A) In a PTCIP or an RFA, a railroad may request review of the requirement to install a PTC system on a track segment where a PTC system is otherwise required by this section, but has not yet been installed, based upon the presence of a minimal quantity of PIH materials traffic. Any such request shall be accompanied by estimated traffic projections for the next 5 years (e.g., as a result of planned rerouting, coordination, or location of new business on the line). Where the request involves prior or planned rerouting of PIH materials traffic, the railroad must provide the information and analysis identified in paragraph (b)(4)(i) of this section. The submission shall also include a full description of potential safety hazards on the segment of track and fully describe train operations over the line. This paragraph does not apply to line segments used for commuter rail or intercity rail passenger service.

(B) Absent special circumstances related to specific hazards presented by operations on the line segment, FRA will approve a request for relief under this paragraph for a rail line segment that meets all of the following criteria:

(1) That carries less than 15 million gross tons annually;

(2) That does not have a heavy grade as “heavy grade” is defined in § 232.407 of this chapter for any train operating over the track segment;

(3) Where the railroad adopts and complies with an operating rule requiring the crew of any train approaching working limits established under part 214 of this chapter to notify the roadway worker in charge of the train's approach at least 2 miles in advance of the working limits or, if the train crew does not have advance knowledge of the working limits, as soon as practical;

(4) That carries fewer than 100 cars containing PIH materials per year, excluding those cars containing only a residue, as defined in § 171.8 of this title, of PIH materials;

(5) That carries 2 or fewer trains per day carrying any quantity of PIH materials;

(6) Where trains carrying any quantity of PIH materials operate at speeds not to exceed 40 miles per hour; and

(7) Where any train transporting a car containing any quantity of PIH materials is operated with a vacant block ahead of and behind the train.

(C) FRA may, in its discretion, approve other track segments not used for regularly provided intercity or commuter passenger service that have posed an equivalent or lesser level of risk of a PTC-preventable accident or PIH materials release as those track segments covered by paragraph (b)(4)(iii)(B) of this section, where such other track segments are similar to those covered by paragraph (b)(4)(iii)(B) of this section.

* * * * *

13. In § 236.1006, revise paragraph (a), remove and reserve paragraph (b)(2), and add paragraphs (b)(5) and (d) to read as follows:

§ 236.1006 Equipping locomotives operating in PTC territory.

(a) General. Except as provided in paragraph (b) of this section, each locomotive, locomotive consist, or train on any track segment equipped with a PTC system shall be

controlled by a locomotive equipped with an onboard PTC apparatus that is fully operative and functioning in accordance with the applicable PTCSP approved under this subpart.

(b) * * *

(2) [Reserved]

* * * * *

(5) Freight yard movements. For the purpose of freight switching service or freight transfer train service, a locomotive, locomotive consist, or train may operate without onboard PTC apparatus installed or operational where an onboard PTC apparatus is otherwise required by this part only if all of the following six requirements and conditions are met:

(i) The locomotive, locomotive consist, or train must be engaged in freight switching service or freight transfer train service, including yard, local, industrial, and hostling service, movements in connection with the assembling or disassembling of trains, and work trains;

(ii) The movement must originate either:

(A) In a yard; or

(B) Within 20 miles of a yard with the yard as the final destination point;

(iii) The locomotive, locomotive consist, or train shall not travel to a point in excess of 20 miles from its point of entry onto the PTC-equipped main line track;

(iv) The speed of the locomotive, locomotive consist, or train shall not exceed restricted speed, except if:

(A) No other locomotive, locomotive consist, or train is operating on any part of the route without an operational onboard PTC apparatus;

(B) No working limits are established under part 214 of this chapter on any part of the route; and

(C) Either an air brake test under part 232 of this chapter is performed, in which case the locomotive, locomotive consist, or train may proceed at a speed not to exceed 30 miles per hour; or an air brake test under part 232 of this chapter is not performed, in which case the locomotive, locomotive consist, or train may proceed at a speed not to exceed 20 miles per hour;

(v) The speed of the locomotive, locomotive consist, or train shall not exceed restricted speed on PTC-equipped track where the route terminates; and

(vi) The route of the locomotive or train is protected against conflicting operations by the PTC system and sufficient operating rules to protect against train-to-train collisions, as specified in the PTCSP.

(vii) FRA may, in its discretion, approve yard movement procedures other than the yard movement procedures in paragraphs (b)(5)(i) through (b)(5)(vi) of this section in a PTCSP or an RFA that provide an equivalent or greater level of safety as the requirements of paragraphs (b)(5)(i) through (b)(5)(vi) of this section, where such procedures are similar to those of paragraphs (b)(5)(i) through (b)(5)(vi) of this section.

(viii) A locomotive, locomotive consist, or train with an operative onboard PTC apparatus may assist a locomotive, locomotive consist, or train operating without an operative onboard PTC apparatus for purposes such as locomotive malfunction, rescue of locomotive or cars, or to add or remove power, provided that such a movement is made at restricted speed.

* * * * *

(d) Onboard PTC apparatus. (1) The onboard PTC apparatus shall be so arranged that each member of the crew assigned to perform duties in the locomotive can receive the same PTC information displayed in the same manner and execute any functions necessary to that crew member's duties. The locomotive engineer shall not be required to perform functions related to

the PTC system while the train is moving that have the potential to distract the locomotive engineer from performance of other safety-critical duties.

(2) The onboard PTC apparatus may be distributed among multiple locomotives if such functionality is included with the applicable PTCSP approved under this subpart. The controlling locomotive shall be equipped with a fully operative interface that complies with paragraph (d)(1) of this section and is consistent with appendix E of this part.

14. Add § 236.1009(a)(5) to read as follows:

§ 236.1009 Procedural requirements.

(a) * * *

(5) Each railroad filing a PTCIP shall report annually, on the anniversary of its original PTCIP submission, and until its PTC system implementation is complete, its progress towards fulfilling the goals outlined in its PTCIP under this part, including progress towards PTC system installation pursuant to § 236.1005 and onboard PTC apparatus installation and use in PTC-equipped track segments pursuant to § 236.1006, as well as impediments to completion if each of the goals.

* * * * *

15. Add § 236.1015(d)(21) to read as follows:

§ 236.1015 PTC Safety Plan content requirements and PTC System Certification.

* * * * *

(d) * * *

(21) A list of each location where a locomotive with a failed onboard PTC apparatus will be regularly be exchanged or repaired pursuant to § 236.1029(b)(6) and a list of each movement

that could take place pursuant to § 236.1029(b)(6) if the movement potentially could exceed 500 miles.

* * * * *

16. Section 236.1029 is amended by—

- a. Revising the section heading,
- b. Revising the last sentence in paragraph (a),
- c. Revising paragraphs (b) and (c),
- d. Removing and reserving paragraph (f), and
- e. Adding paragraphs (g) and (h).

The revisions and additions read as follows:

§ 236.1029 PTC system use and failures.

(a) In general. * * * Until repair of such essential components is completed, a railroad shall take appropriate action as specified in its PTCS.

(b) En route failures. Except as provided in paragraphs (c) and (g) of this section, where a controlling locomotive that is operating in, or is to be operated within, a PTC-equipped track segment experiences PTC system failure or the PTC system is otherwise cut out while en route (i.e., after the train has departed its initial terminal), the train may only continue in accordance with all of the following:

(1) Except as provided in paragraph (b)(5) of this section, where no block signal system is in use, the train may proceed at a speed not to exceed 40 miles per hour; however, if the involved train is transporting one or more cars containing PIH materials, excluding those cars containing only a residue of PIH materials, the train may only proceed at a speed not to exceed 30 miles per hour.

- (2) Where a block signal system is in place:
- (i) A passenger train may proceed at a speed not to exceed 59 miles per hour;
 - (ii) A freight train transporting one or more cars containing PIH materials, excluding those cars containing only a residue of PIH materials, may proceed at a speed not to exceed 40 miles per hour; and
 - (iii) Any other freight train may proceed at a speed not to exceed 49 miles per hour.
- (3) Where a cab signal system with an automatic train control system is in use, the train may proceed at a speed not to exceed 79 miles per hour.
- (4) A report of the failure or cut-out must be made to a designated railroad officer of the host railroad as soon as safe and practicable.
- (5) Where the PTC system is the exclusive method of delivering mandatory directives, an absolute block must be established in advance of the train as soon as safe and practicable, and the train shall not exceed restricted speed until the absolute block in advance of the train is established.
- (6) Where the failure or cut-out is a result of a defective onboard PTC apparatus, the train may continue no farther than the next forward designated location for the repair or exchange of onboard PTC apparatuses.
- (c) Exception for alternative system failure procedure. A railroad may submit for approval a PTCSP, an RFA, or an Order of Particular Applicability with an alternative system failure procedure other than that required by paragraph (b) of this section. FRA may, in its discretion, approve such an alternative system failure procedure if it provides similar requirements of, and an equivalent or greater level of safety as, the requirements of paragraph (b) of this section.

* * * * *

(f) [Reserved]

(g) Temporary exceptions. From [INSERT DATE 60 DAYS FROM DATE OF PUBLICATION IN THE FEDERAL REGISTER] through the 24 months following the date of required PTC system implementation established by section 20157 of title 49 of the United States Code—

(1) A railroad's PTCSP or Order of Particular Applicability may provide for compliance with the en route failure requirements of § 236.567 instead of paragraph (b) of this section where a controlling locomotive that is operating in, or is to be operated within, a PTC-equipped track segment experiences PTC system failure or the PTC system is otherwise cut out while en route;

(2) A train may proceed as prescribed under either paragraph (b) of this section or § 236.567 where the PTC system fails to initialize for any reason prior to the train's departure from its initial terminal; and

(3) A railroad's PTCSP may provide for the temporary disabling of PTC system service where necessary to perform PTC system repair or maintenance. In this paragraph (g)(3), "PTC system service" does not refer to the failure of the onboard PTC apparatus for a single locomotive, locomotive consist, or train.

(i) The PTCSP shall specify appropriate operating rules to apply when the PTC system is temporarily disabled in accordance with this paragraph (g)(3).

(ii) The railroad shall make reasonable efforts to schedule the temporary disabling of PTC system service for times posing the least risk to railroad safety.

(iii) The railroad shall provide notice to the FRA regional office having jurisdiction over that territory at least 7 days in advance of planned temporary disabling of PTC system service and contemporaneous notice for unplanned temporary disabling of PTC system service.

(iv) The PTC system that is temporarily disabled in accordance with this paragraph (g)(3) shall be placed back into service without undue delay.

(h) Annual report of system failures. Annually, by April 16 of each year following the date of required PTC system implementation established by section 20157 of title 49 of the United States Code, each railroad shall provide FRA with a report of the number of PTC failures that occurred during the previous calendar year. The report shall identify failures by category, including but not limited to locomotive, wayside, communications, and back office system failures.

Issued in Washington, DC, on August 8, 2014.

Joseph C. Szabo,
Administrator.

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